CFS-W310L

SERVICE MANUAL

AEP Model

MEGA BASS

Model Name Using Similar Mechanism	CFS-W308L
Tape Transport Mechanism Type	MF-W308-64

SPECIFICATIONS

Tuner frequency range

Sales area	FM	MW	LW
AEP, Germany model	87.6 – 107 MHz	531 – 1,602 kHz	153 – 279 kHz
Italian model	87.5 – 108 MHz	531 – 1,602 kHz	153 – 279 kHz

Intermediate frequency	FM: 10.7 MHz MW/LW/SW: 450 kHz
Scan step	FM: 50 kHz MW: 9 kHz LW: 9 kHz
Antennas	FM: Telescopic antenna MW/LW: Built-in ferrite bar antenna
Recording system	4-track 2-channel stereo
Frequency response	80 – 10,000Hz
Speaker	10 cm (4 inches) dia. full range×2
Input	CD/LINE IN jacks (phono jacks)(2) Input impedance 50 kilohms Sensitivity 0.43 V
Output	Headphones jack (stereo minijack) for 16 – 68 ohm impedance headphones
Maximum power output	5.2 W (2.6 W + 2.6 W)
Power requirements	220 – 230 V AC, 50 Hz 9 V DC, six R20 (size D) batteries
Power consumption	14 W

Battery life

Batteries	FM recording	Tape playback
Sony SUM-1 (NS)	Approx. 12 hours	Approx. 7 hours
Sony AM1 alkaline	Approx. 24 hours	Approx. 14 hours

Dimensions	Approx. 540×155×148 mm (w/h/d) (21$^{3}/_{4}$×6$^{1}/_{8}$×5$^{7}/_{8}$ inches) incl. projecting parts and controls. not incl. handle
Weight	Approx 3.3 kg (7 lb 5 oz) incl. batteries
Accessory supplied	AC power cord (1)

Design and specifications are subject to change without notice.

Note

This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

MICROFILM

RADIO CASSETTE-CORDER

SONY®

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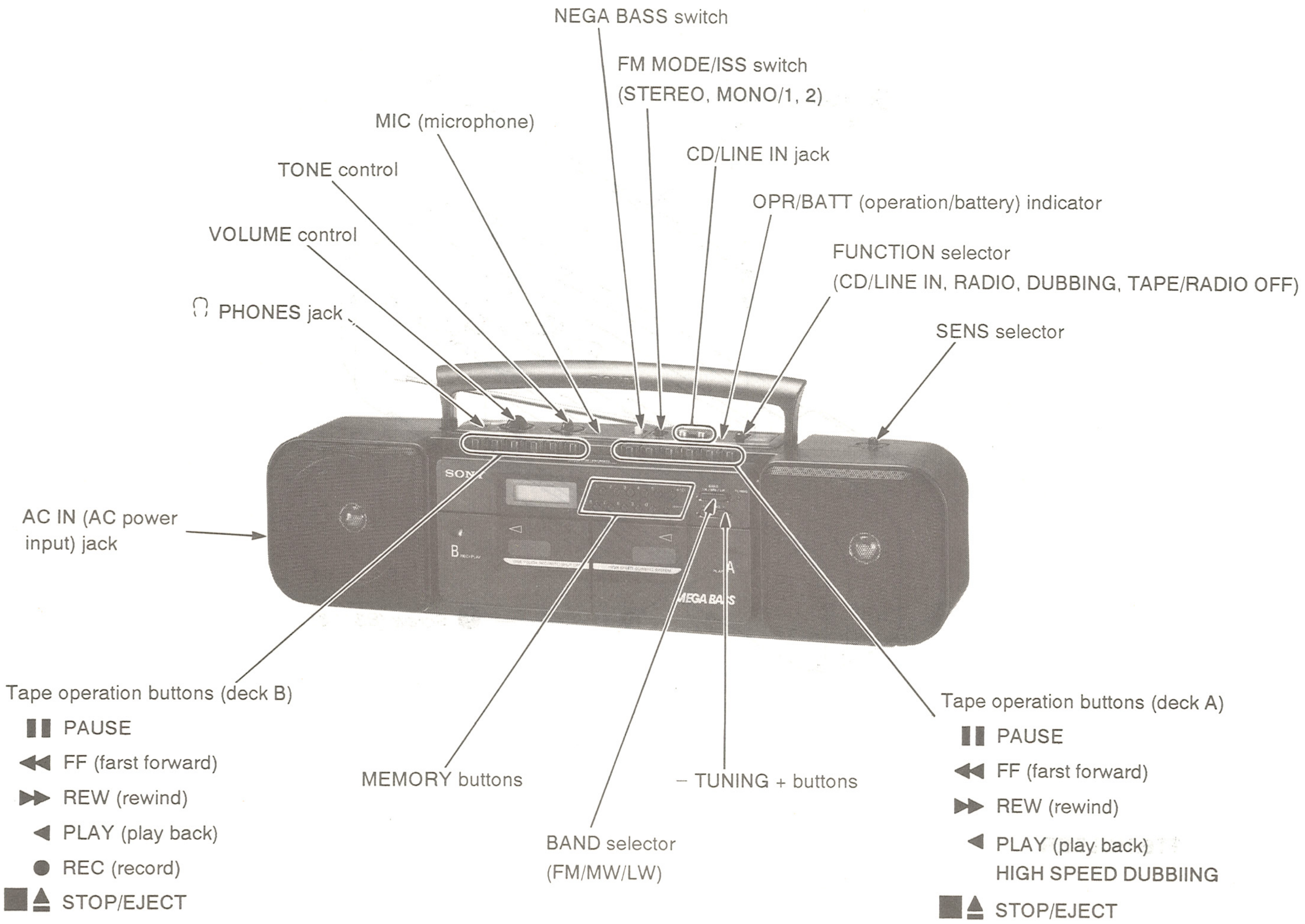
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
GENERAL

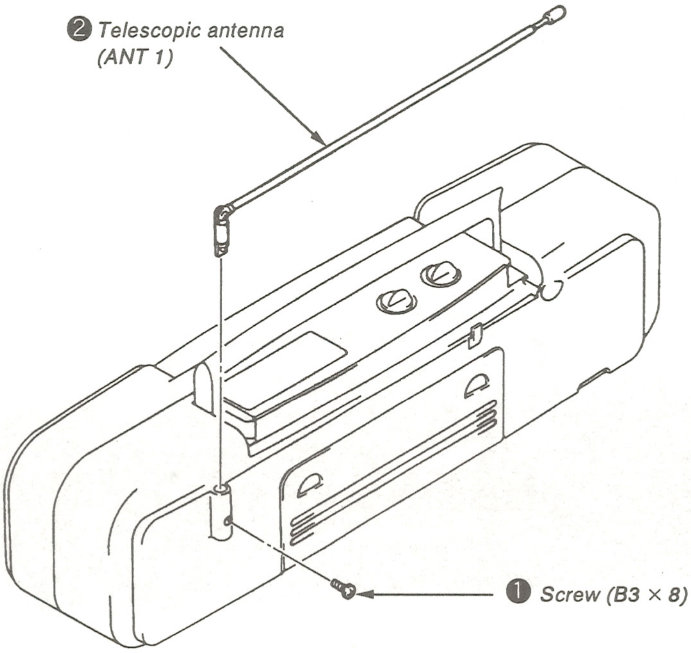
LOCATION OF CONTROLS


NEGA BASS switch
FM MODE/ISS switch (STEREO, MONO/1, 2)
MIC (microphone)
CD/LINE IN jack
TONE control
OPR/BATT (operation/battery) indicator
VOLUME control
FUNCTION selector (CD/LINE IN, RADIO, DUBBING, TAPE/RADIO OFF)
🎧 PHONES jack
SENS selector
AC IN (AC power input) jack
Tape operation buttons (deck B)
❚❚ PAUSE
◀◀ FF (farst forward)
▶▶ REW (rewind)
◀ PLAY (play back)
● REC (record)
■⏏ STOP/EJECT
MEMORY buttons
BAND selector (FM/MW/LW)
– TUNING + buttons
Tape operation buttons (deck A)
❚❚ PAUSE
◀◀ FF (farst forward)
▶▶ REW (rewind)
◀ PLAY (play back) HIGH SPEED DUBBIING
■⏏ STOP/EJECT
SONY
MEGA BASS
B
A

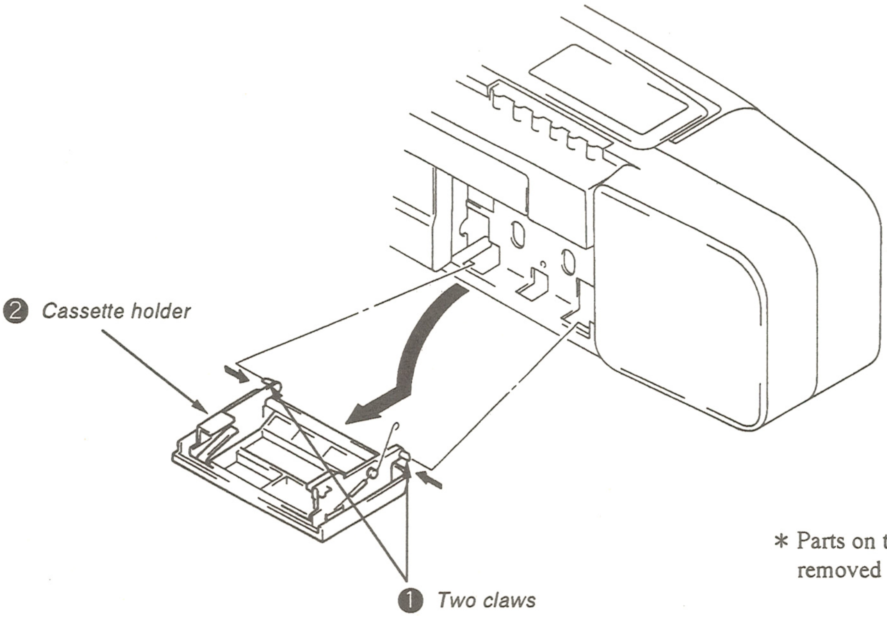
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

TELSCOPIC ANTENNA

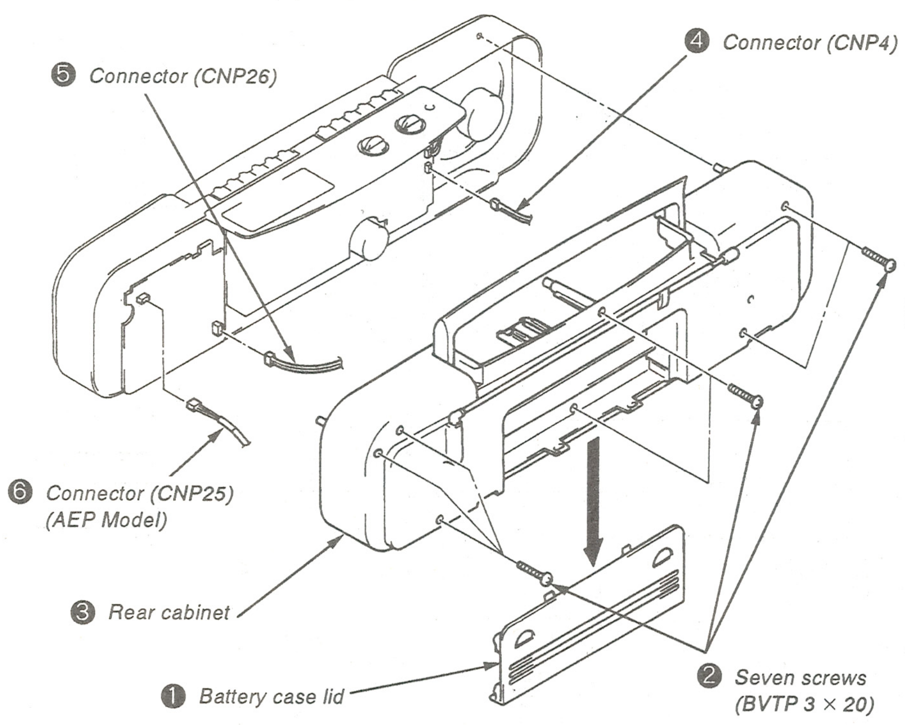

② Telescopic antenna
(ANT 1)
❶ Screw (B3 × 8)

CASSETTE HOLDER


② Cassette holder
❶ Two claws

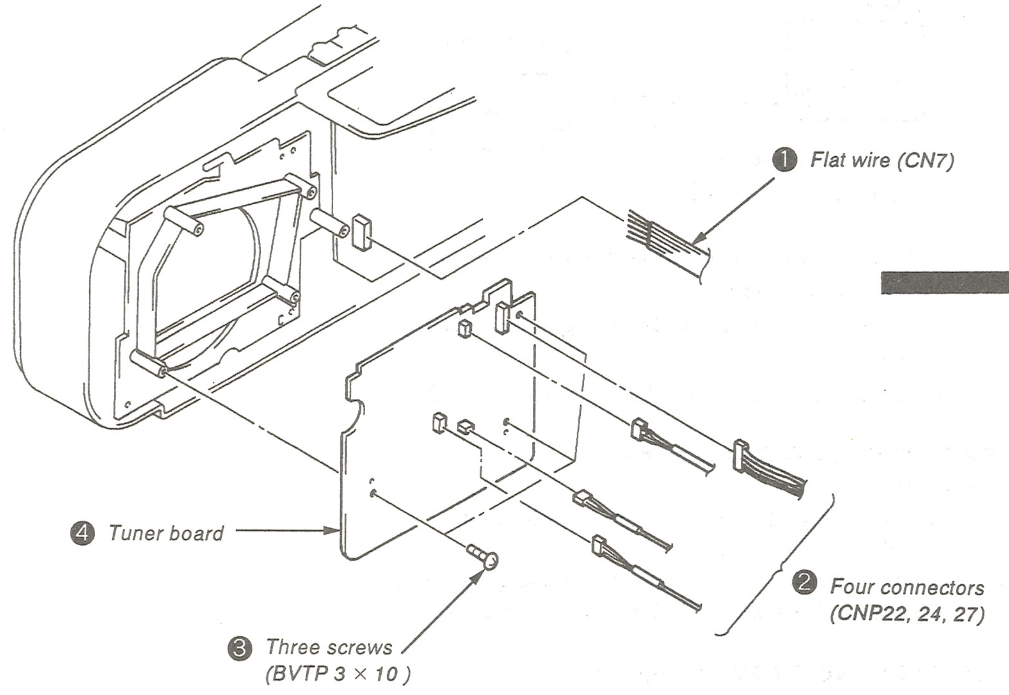
∗ Parts on the opposite side can also be removed in the same manner.

REAR CABINET



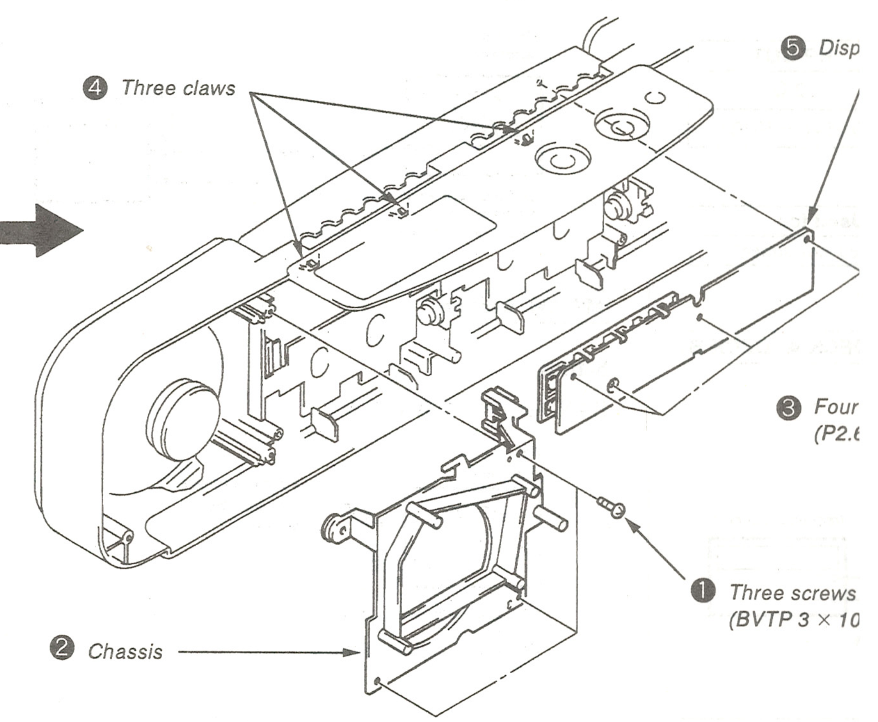
❺ Connector (CNP26)
❹ Connector (CNP4)
❻ Connector (CNP25)
(AEP Model)
❸ Rear cabinet
❶ Battery case lid
❷ Seven screws
(BVTP 3 × 20)

TUNER BOARD



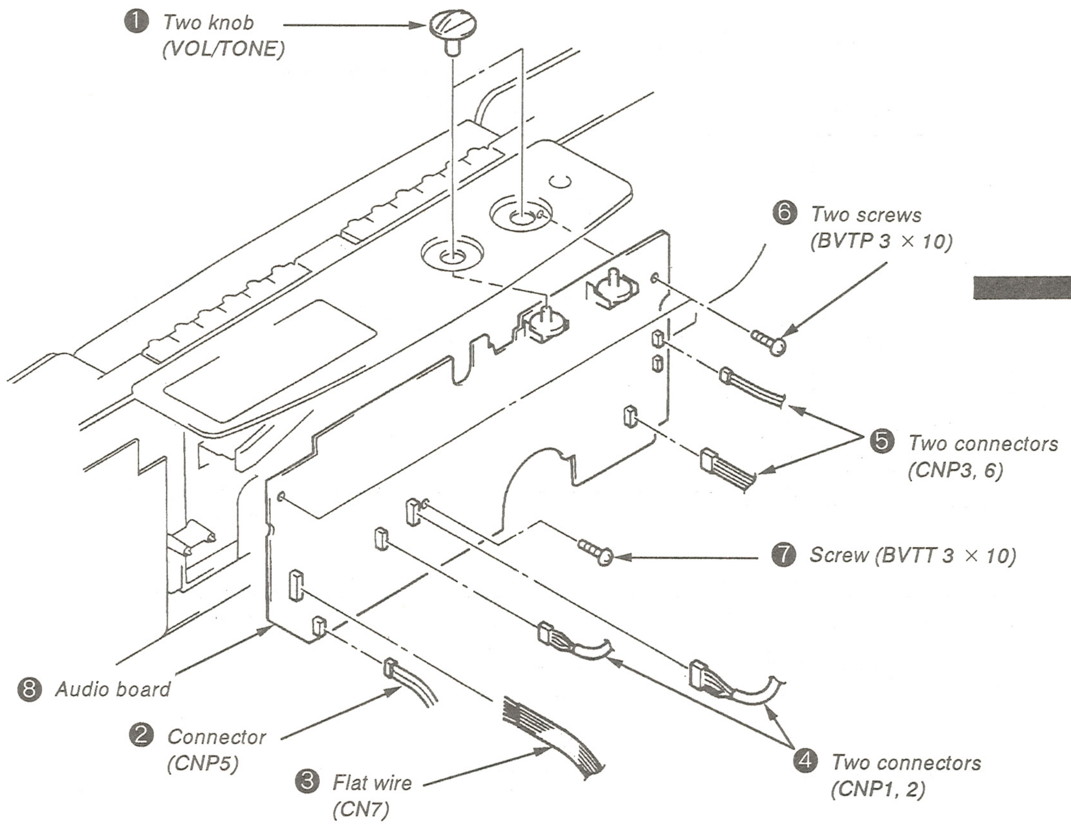
❶ Flat wire (CN7)
❹ Tuner board
❷ Four connectors
(CNP22, 24, 27)
❸ Three screws
(BVTP 3 × 10)

CHASSIS AND DISPLAY BOARD



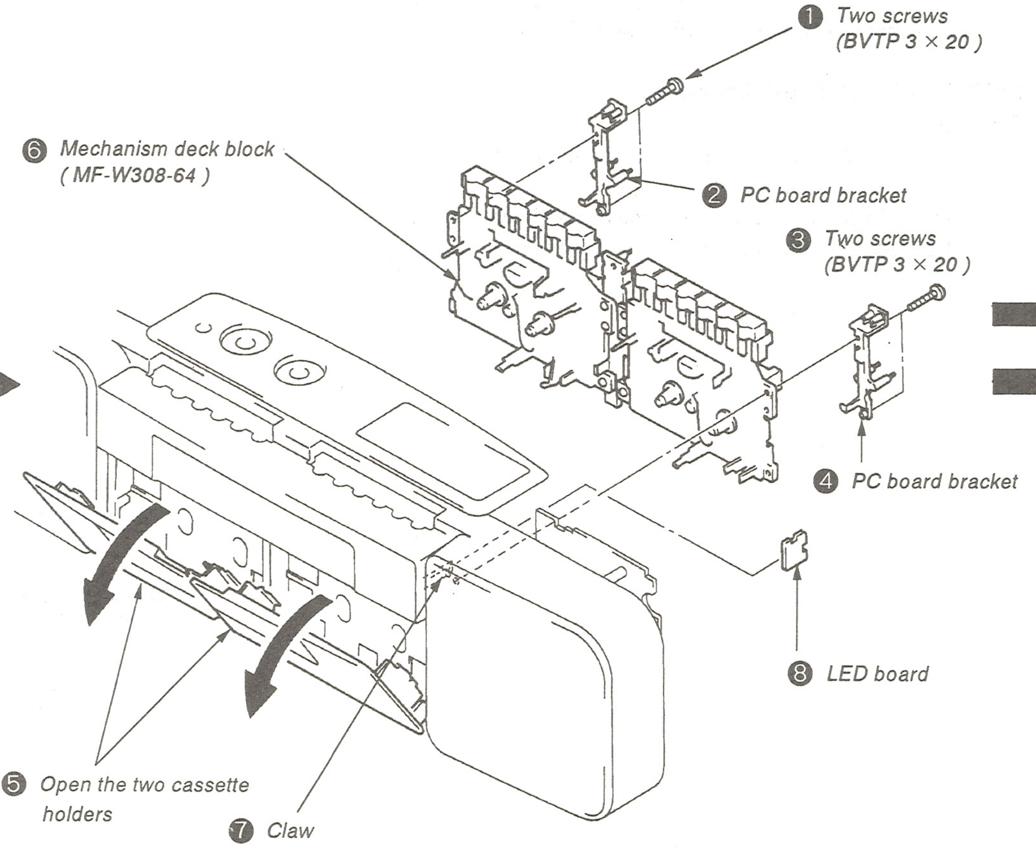
❹ Three claws
❺ Disp
❸ Four
(P2.
❶ Three screws
(BVTP 3 × 10
❷ Chassis

AUDIO BOARD

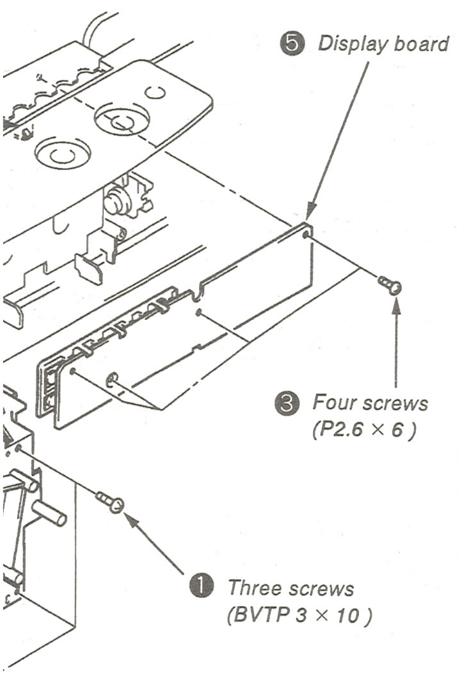


❶ Two knob
(VOL/TONE)
❻ Two screws
(BVTP 3 × 10)
❺ Two connectors
(CNP3, 6)
❼ Screw (BVTT 3 × 10)
❽ Audio board
❷ Connector
(CNP5)
❸ Flat wire
(CN7)
❹ Two connectors
(CNP1, 2)

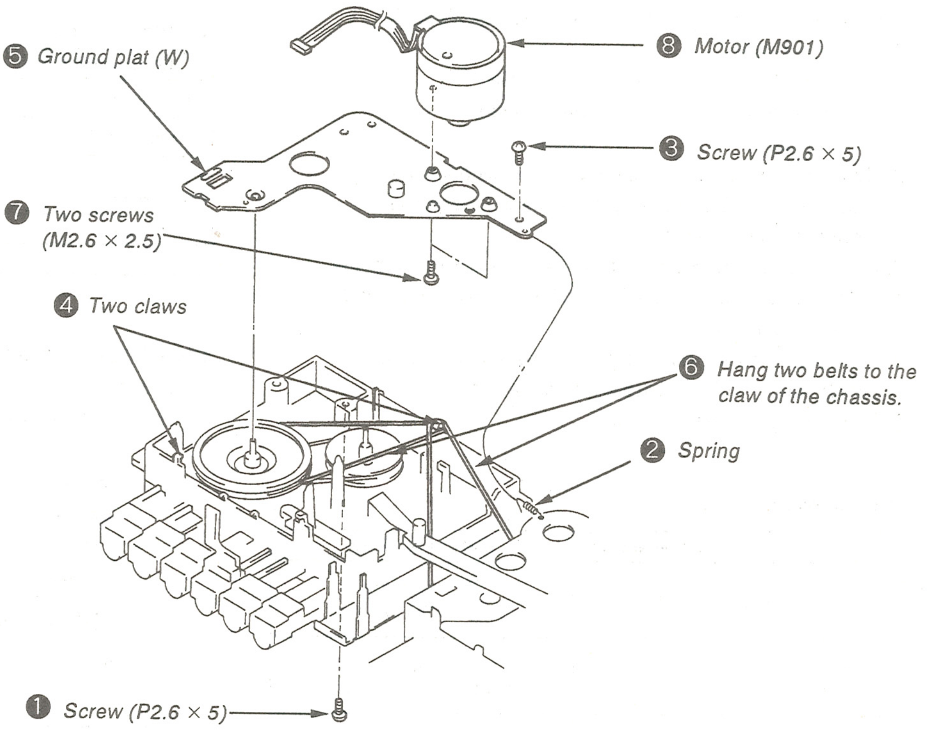
MECHANISM DECK BLOCK AND LED BOARD



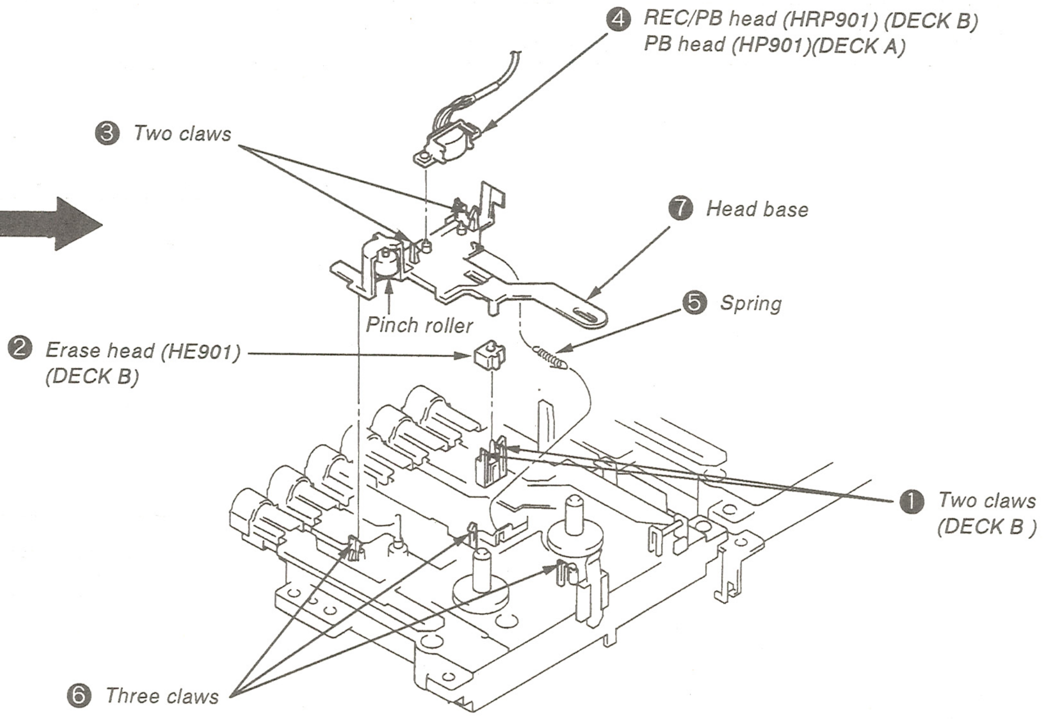
❶ Two screws
(BVTP 3 × 20)
❻ Mechanism deck block
(MF-W308-64)
❷ PC board bracket
❸ Two screws
(BVTP 3 × 20)
❹ PC board bracket
❽ LED board
❺ Open the two cassette
holders
❼ Claw


⑤ Display board
③ Four screws
(P2.6 × 6)
① Three screws
(BVTP 3 × 10)

MOTOR


⑤ Ground plat (W)
⑧ Motor (M901)
③ Screw (P2.6 × 5)
⑦ Two screws
(M2.6 × 2.5)
④ Two claws
⑥ Hang two belts to the
claw of the chassis.
② Spring
① Screw (P2.6 × 5)

HEAD BASE AND HEAD


④ REC/PB head (HRP901) (DECK B)
PB head (HP901)(DECK A)
③ Two claws
⑦ Head base
⑤ Spring
Pinch roller
② Erase head (HE901)
(DECK B)
① Two claws
(DECK B)
⑥ Three claws

SECTION 3
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :
    - record/playback head
    - erase head
    - capstan
    - pinch roller
    - rubber belts
    - idlers
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
6. Power supply voltage : 9Vdc

Torque Measurement

Torque	Torque Meter	Meter Reading
Forward	CQ-102C	20 – 60g•cm (0.28 – 0.83 oz•inch)
Forward Back tension	CQ-102C	2 – 6g•cm (0.028 – 0.083 oz•inch)
Fast Forward	CQ-201B	more than 45g•cm (more than 0.62 oz•inch)
Rewind	CQ-201B	more than 45g•cm (more than 0.62 oz•inch)

Tape Tension Measurement

Mode	Tension Meter	Meter Reading
Forward	CQ-403A	more than 70g (more than 2.47 oz)

SECTION 4
ELECTRICAL ADJUSTMENTS

4-1. TAPE RECORDER SECTION

Standard Output Level

Output terminal	SP OUT	HP OUT
load impedance	3.2 Ω	32 Ω
output signal level	0.775V(0dB)	0.25V(– 10dB)

Test Tape

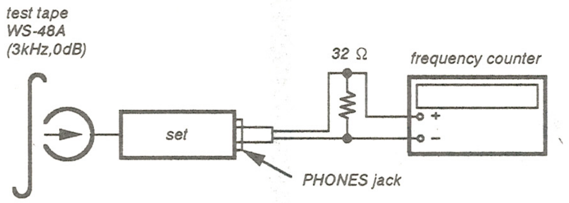
Type	Signal	Used for
WS-48A	3kHz, 0dB	Tape Speed Adjustment

Tape Speed Adjustment

DECK A **DECK B**

Procedure :

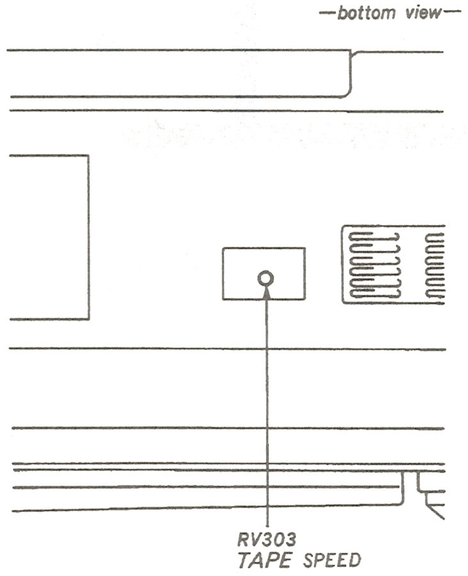
Mode : playback



Speed	Deck	Adjustment Point	frequency counter
Normal	A	RV303	2,970 – 3,000Hz
	B	confirm	
High	A	confirm	5,500 – 5,900Hz
	B	confirm	

Frequency difference between the beginning and the end of the tape should be within ± 1.5% .

Adjustment Location :

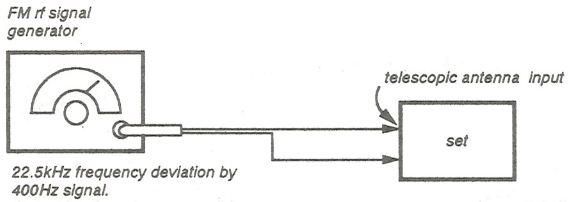


4-2. RADIO SECTION

FM Section

Setting :

BAND switch : FM

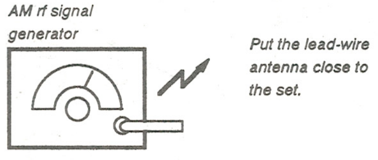


22.5kHz frequency deviation by 400Hz signal.
Output level : as low as possible

MW/LW Section

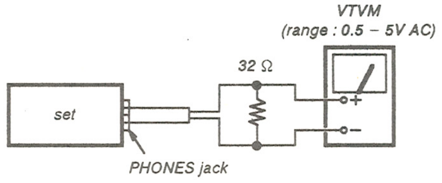
Setting :

BAND switch : MW or LW



Put the lead-wire antenna close to the set.

30% amplitude modulation by 400Hz signal.
Output level : as low as possible



FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L1, L2	check
98MHz	108MHz

MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L5-1	CT5
621kHz	1,404kHz

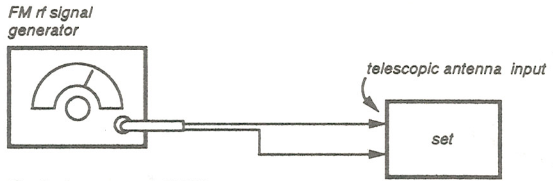
LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L5-2	CT6
162kHz	261kHz

Adjustment Location : TUNER board (See page 10.)

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

VCO Adjustment

procedure :



Carrier frequency: 98MHz
Modulation: no modulation
Output level: 0.1V (100dB)

1. Connect frequency counter to the positions shown below.
2. Tune the set to 98MHz.
3. Adjust RV1 for 76kHz ± 50Hz reading on the frequency counter.

Adjustment Location : TUNER board (See page 10.)

FM TUNING VOLTAGE Adjustment

Procedure :

1. Connect the digital voltmeter to the TUNER board.
2. Tune the set to 108MHz.
3. Adjust L3 for 8V ± 0.1V reading on the digital voltmeter.

Adjustment Location : TUNER board (See page 10.)

MW TUNING VOLTAGE Adjustment

Procedure :

1. Connect the digital voltmeter to the TUNER board.
2. Tune the set to 531kHz.
3. Adjust T2 for 1.5V ± 0.1V reading on the digital voltmeter.
4. Tune the set to 1,611kHz.
5. Adjust CT7 for 8V ± 0.1V reading on the digital voltmeter.

Adjustment Location : TUNER board (See page 10.)

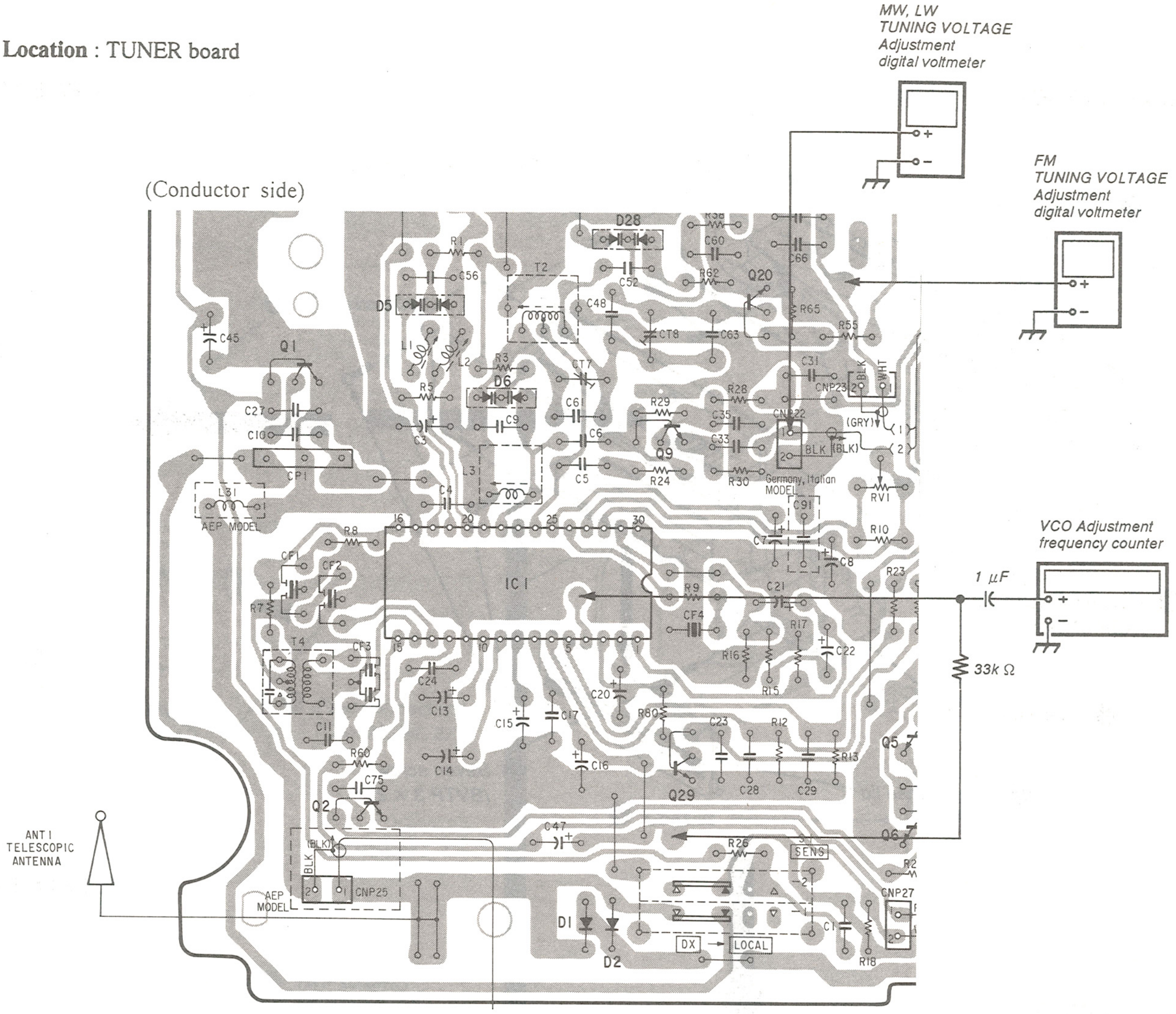
LW TUNING VOLTAGE Adjustment

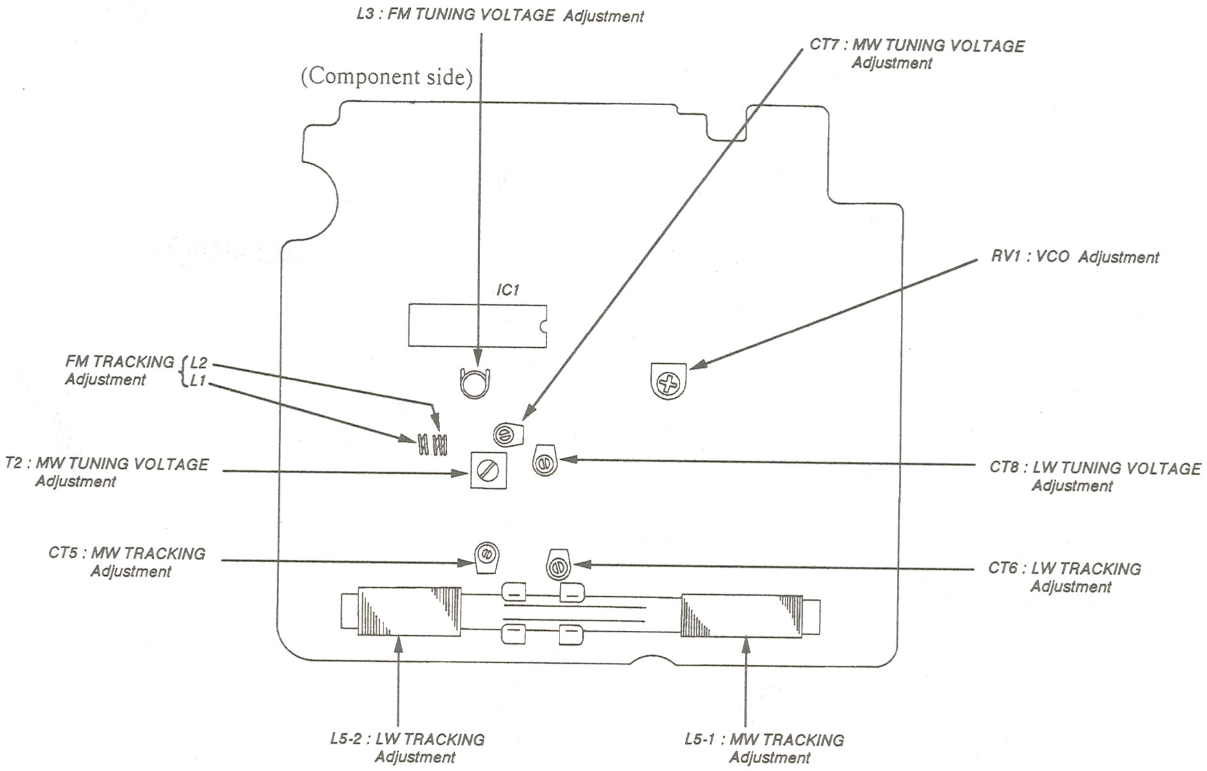
Procedure :

1. Connect the digital voltmeter to the TUNER board.
2. Tune the set to 153kHz.
3. Adjust CT8 for 0.9V ± 0.1V reading on the digital voltmeter.

Adjustment Location : TUNER board (See page 10.)

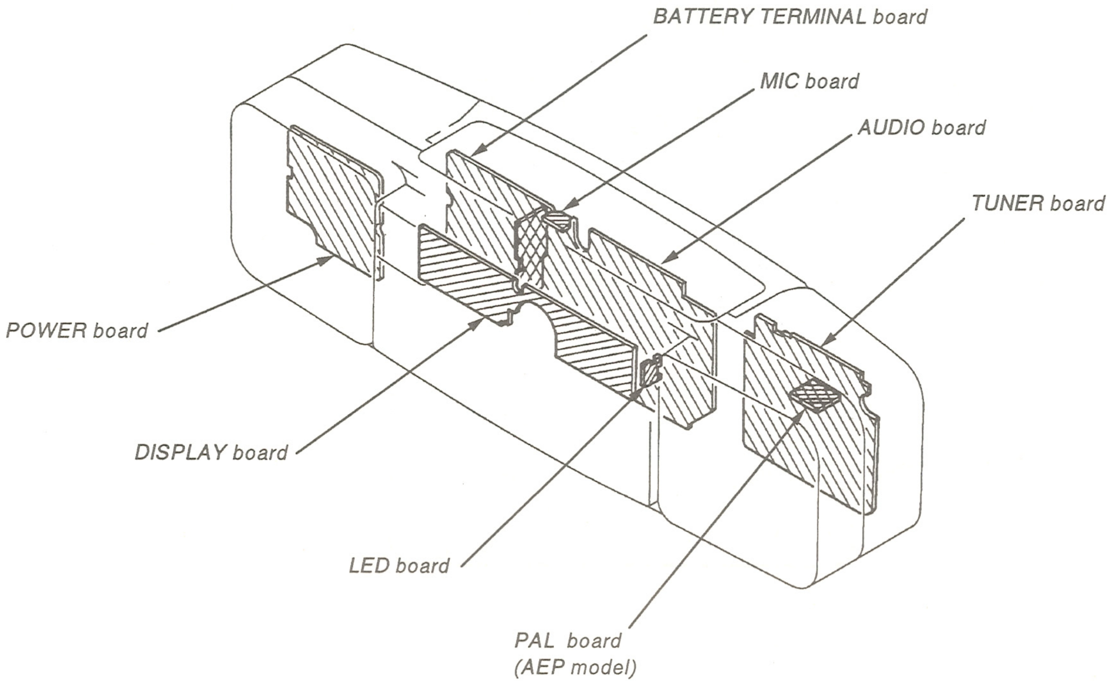
Adjustment Location : TUNER board


MW, LW
TUNING VOLTAGE
Adjustment
digital voltmeter
FM
TUNING VOLTAGE
Adjustment
digital voltmeter
VCO Adjustment
frequency counter
1 µF
33k Ω
(Conductor side)
ANTI
TELESCOPIC
ANTENNA
Q1
C45
C27
C10
CP1
L31
AEP MODEL
R1
C56
D5
L1
L2
R3
R5
C3
D6
C9
L3
C4
T2
C48
C52
D28
CT7
C61
C6
C5
CT8
R29
Q9
R24
C63
C60
R62
Q20
R65
C66
R55
R28
C35
C33
R30
C31
CNP23
CNP22
BLK
WHT
(GRY)
(BLK)
Germany, Italian MODEL
RV1
C91
C7
C8
R10
R23
R8
CF1
CF2
R7
IC1
16
20
25
30
15
10
5
R9
C21
CF4
R17
R16
R15
C22
T4
CF3
C11
C24
C13
C15
C17
C20
R80
C23
R12
R13
Q5
C14
C16
C28
C29
Q29
R60
C75
Q2
C47
R26
SENS
Q6
(BLK)
CNP25
AEP MODEL
D1
D2
DX
LOCAL
C1
R18
CNP27


L3 : FM TUNING VOLTAGE Adjustment
CT7 : MW TUNING VOLTAGE Adjustment
(Component side)
RV1 : VCO Adjustment
IC1
FM TRACKING Adjustment L2 L1
T2 : MW TUNING VOLTAGE Adjustment
CT8 : LW TUNING VOLTAGE Adjustment
CT5 : MW TRACKING Adjustment
CT6 : LW TRACKING Adjustment
L5-2 : LW TRACKING Adjustment
L5-1 : MW TRACKING Adjustment

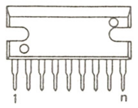
SECTION 5
DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION

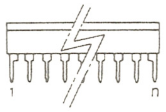

BATTERY TERMINAL board
MIC board
AUDIO board
TUNER board
POWER board
DISPLAY board
LED board
PAL board
(AEP model)

● SEMICONDUCTOR LEAD LAYOUTS

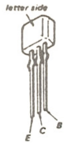
LA4598



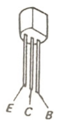
TA8148S



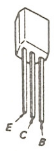
DTC114TS
2SA1175-HFE
2SC2785-HFE
2SC2786-L
2SC2787-K


letter side
E
C
B

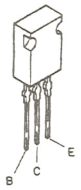
2SA952-K2
2SC1815-GR



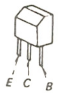
DTC114ES
RN1202
2SC3576



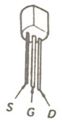
2SD2096-EF



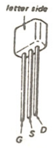
2SD773-34



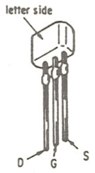
2SK105A-30



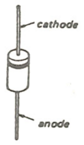
2SK193-E


letter side
G
S
D

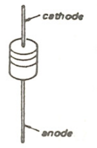
2SK514-H


letter side
D
G
S

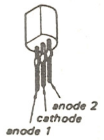
10E2


cathode
anode

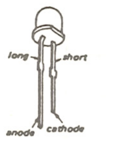
RD11ES-B1
RD6.8ES-B2
RD8.2ES-B2
1SS119


cathode
anode

SVC203RA-V


anode 2
cathode
anode 1

MVR3338S

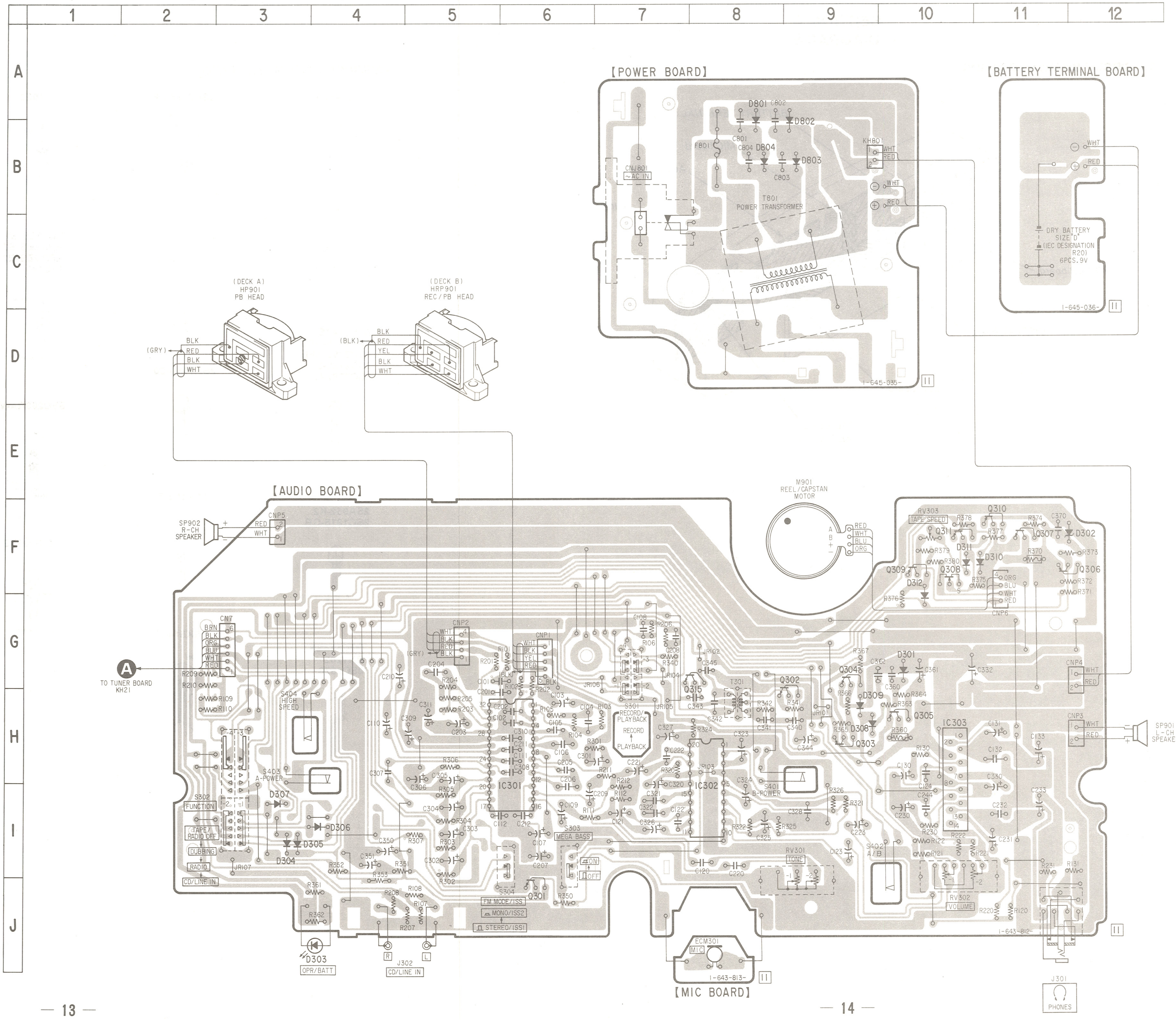

long
short
anode
cathode

5-2. PRINTED WIRING BOARDS (AUDIO, POWER SECTION)

- Refer to page 12 for Semiconductor Lead Layouts.

• SEMICONDUCTOR LOCATION

Ref. No.	Location
D301	G - 10
D302	F - 12
D303	J - 4
D304	I - 3
D305	I - 3
D306	I - 4
D307	I - 3
D308	H - 9
D309	H - 9
D310	F - 11
D311	F - 10
D312	G - 10
D801	B - 8
D802	B - 9
D803	B - 9
D804	B - 8
IC301	H - 6
IC302	I - 8
IC303	H - 10
Q301	J - 6
Q302	H - 9
Q303	H - 9
Q304	G - 9
Q305	H - 10
Q306	F - 12
Q307	F - 11
Q308	F - 10
Q309	F - 10
Q310	F - 11
Q311	F - 10
Q315	G - 7


1
2
3
4
5
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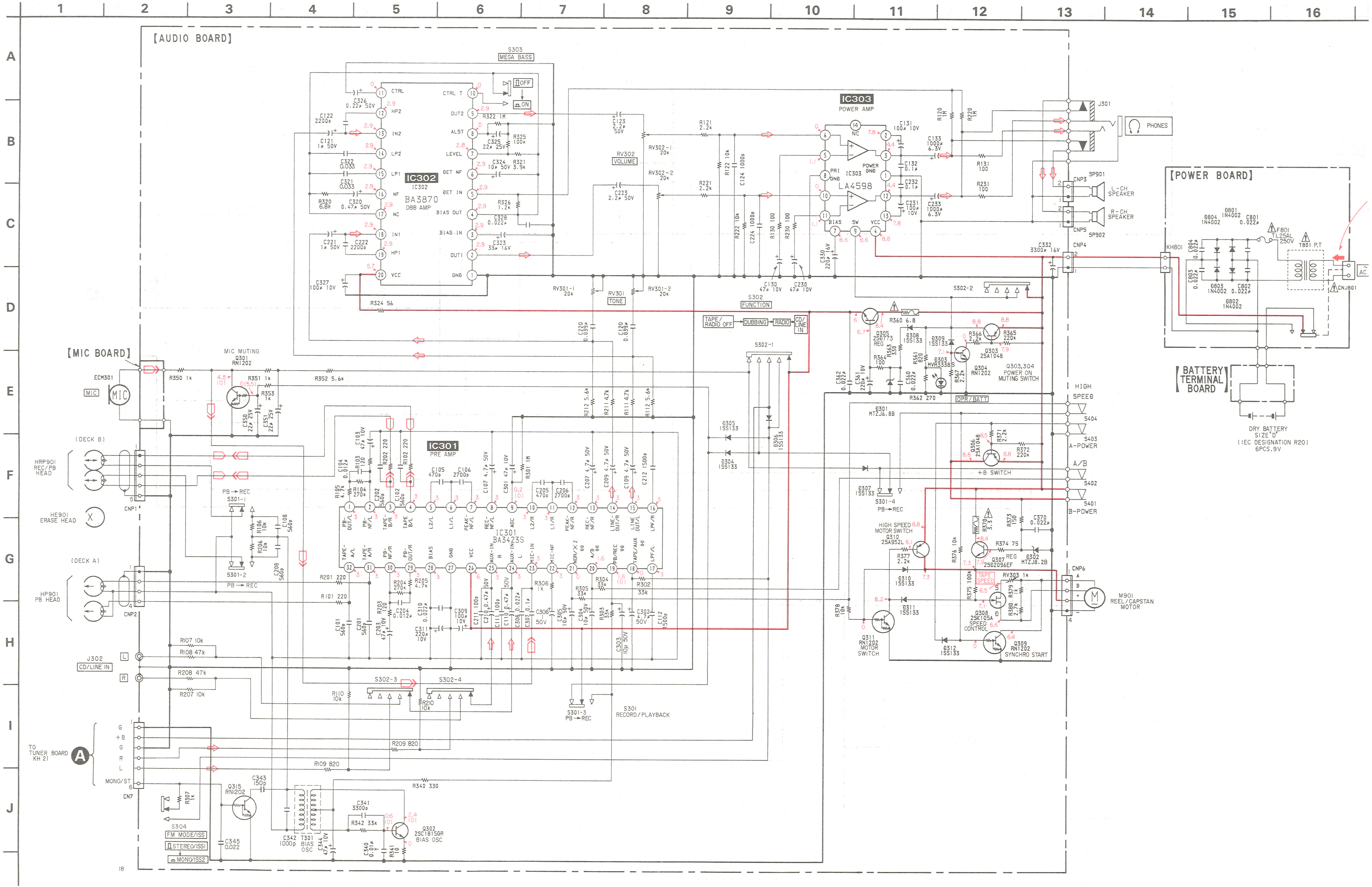
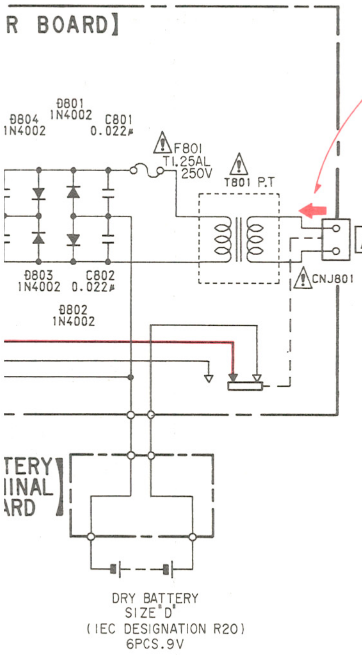
9
10
11
12
A
B
C
D
E
F
G
H
I
J
【POWER BOARD】
【BATTERY TERMINAL BOARD】
CNJ801 ~AC IN
T801 POWER TRANSFORMER
DRY BATTERY SIZE "D" (IEC DESIGNATION R20) 6PCS. 9V
1-645-035-
1-645-036-
(DECK A) HP901 PB HEAD
(DECK B) HRP901 REC/PB HEAD
M901 REEL/CAPSTAN MOTOR
【AUDIO BOARD】
SP902 R-CH SPEAKER
SP901 L-CH SPEAKER
TO TUNER BOARD KH21
IC301
IC302
IC303
D303 OPR/BATT
J302 CD/LINE IN
ECM301 MIC
1-643-812-
1-643-813-
【MIC BOARD】
J301 PHONES

Note:

- O— : parts extracted from the component side.
- ░░░ : Pattern on the side which is seen.

5-3. SCHEMATIC DIAGRAM (AUDIO, POWER SECTION)

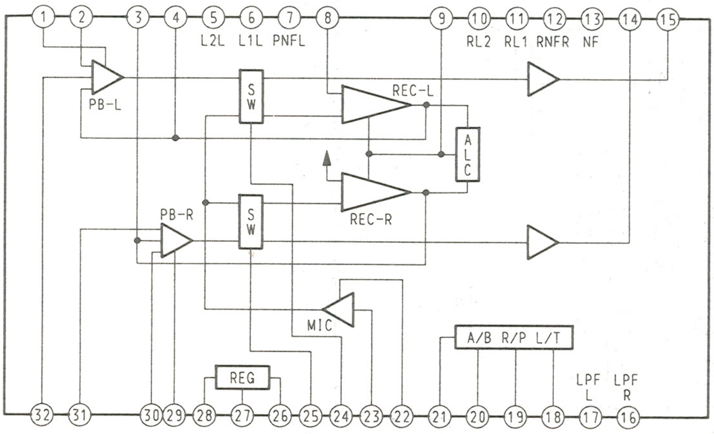

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
[AUDIO BOARD]
S303
MEGA BASS
OFF
ON
IC302
BA3870
DBB AMP
CTRL
HP2
IN2
LP2
LP1
NF
NC
IN1
HP1
VCC
CTRL T
OUT2
ALST
LEVEL
DET NF
DET IN
BIAS OUT
BIAS IN
OUT1
GND
C326 0.22μ 50V
C122 2200p
C121 1μ 50V
C322 0.033
C321 0.033
R320 6.8k
C320 0.47μ 50V
C221 1μ 50V
C222 2200p
C327 100μ 10V
R322 1M
C325 22μ 25V
R325 100k
C324 10μ 50V
R321 3.9k
R326 1.2k
C328 0.022μ
C323 33μ 16V
R324 56
C123 2.2μ 50V
RV302 VOLUME
RV302-1 20k
RV302-2 20k
C223 2.2μ 50V
RV301-1 20k
RV301 TONE
RV301-2 20k
C220 0.039μ
C120 0.039μ
R121 2.2k
R221 2.2k
R122 10k
C124 1000p
R222 10k
C224 1000p
R130 100
R230 100
IC303
POWER AMP
IC303
LA4598
NC
PRI GND
POWER GND
BIAS
SW
VCC
C131 100μ 10V
C133 1000μ 6.3V
C132 0.1μ
C232 0.1μ
C231 100μ 10V
C233 1000μ 6.3V
C130 47μ 10V
C230 47μ 10V
C330 220μ 16V
R120 1M
R220 1M
R131 100
R231 100
J301
PHONES
CNP3
SP901
L-CH SPEAKER
R-CH SPEAKER
CNP5
SP902
CNP4
C332 3300μ 16V
S302
FUNCTION
TAPE/RADIO OFF
DUBBING
RADIO
CD/LINE IN
S302-2
S302-1
R360 6.8
Q305 2SD773 REG
Q308 1SS133
Q309 1SS133
R366 2.2k
R365 220k
Q303 2SA1048
R364 100
R363 330
R361 820
Q303 MVR3338S
R367 2.2k
Q304 RN1202
Q303,304 POWER ON MUTING SWITCH
C362 0.022μ
C361 220μ 10V
C360 0.022μ
R362 270
OPR/BATT
[POWER BOARD]
KH801
D804 1N4002
D801 1N4002
C801 0.022μ
C804 0.022μ
C803 0.022μ
D803 1N4002
C802 0.022μ
D802 1N4002
F801 T1.25AL 250V
T801 P.T
AC
CNJ801
[BATTERY TERMINAL BOARD]
DRY BATTERY SIZE "D" (IEC DESIGNATION R20) 6PCS.9V
[MIC BOARD]
ECM301
MIC
MIC MUTING
Q301 RN1202
R350 1k
R351 1k
R353 1k
R352 5.6k
C350 22μ 25V
C351 22μ 25V
(DECK B)
HRP901 REC/PB HEAD
HE901 ERASE HEAD
CNP1
(DECK A)
HP901 PB HEAD
CNP2
PB→REC
S301-1
S301-2
R106 10k
R206 10k
C108 560p
C208 560p
R201 220
R101 220
IC301
PRE AMP
IC301
BA3423S
PB-OUT/L
PB-NF/L
TAPE-B/R
TAPE-B/L
L2/L
L1/L
PEAK-NF/L
REC-NF/L
AGC
L2/R
L1/R
PEAK-NF/R
REC-NF/R
LINE-OUT/R
LINE-OUT/L
LPF/L
TAPE-A/L
TAPE-A/R
PB-NF/R
PB-OUT/R
BIAS
GND
VCC
AUX-IN R
AUX-IN L
MIC-IN
MIC-NF
NOR/X2
A/B
PB/REC
TAPE/AUX
LPF/R
C103 47μ 10V
R202 220
R102 220
C104 0.012μ
R103 120
R104 270k
R105 4.7k
C202 560p
C102 560p
C105 470p
C106 2700p
C107 4.7μ 50V
C301 47μ 10V
R301 1M
C205 470p
C206 2700p
C207 4.7μ 50V
C209 4.7μ 50V
C109 4.7μ 50V
C212 1500p
R212 5.6k
R211 4.7k
R111 4.7k
R112 5.6k
R204 270k
R205 4.7k
R203 120
C203 47μ 10V
C204 0.012μ
C310 0.022μ
C311 220μ 10V
C309 100μ 10V
C101 560p
C201 560p
C211 100p
C210 0.47μ 50V
C111 100p
C110 0.47μ 50V
C308 0.022μ
C307 0.1μ
R306 1k
C306 50V
C305 10μ 50V
C304 10μ 50V
R305 33k
R304 33k
R303 33k
R302 33k
C303 10μ 50V
C302 4.7μ 50V
C112 1500p
Q305 1SS133
Q306 1SS133
Q304 1SS133
Q307 1SS133
S301-4 PB→REC
S301-3 PB→REC
S301 RECORD/PLAYBACK
R107 10k
R108 47k
J302 CD/LINE IN
L
R
R208 47k
R207 10k
S302-3
S302-4
R110 10k
R210 10k
TO TUNER BOARD KH21
A
G
+B
G
R
L
MONO/ST
CN7
R209 820
R109 820
R340 330
Q315 RN1202
C343 150p
R307 1k
S304
FM MODE/ISS
STEREO/ISS1
MONO/ISS2
C345 0.022
C342 1000p
T301 BIAS OSC
C344 47μ 10V
C341 3300p
R342 33k
Q302 2SC1815GR BIAS OSC
C340 0.01μ
R341 10
Q301 MTZJ6.8B
HIGH SPEED
S404
S403
A-POWER
A/B
S402
S401
B-POWER
Q306 2SA1048
R371 2.2k
R372 220k
+B SWITCH
HIGH SPEED MOTOR SWITCH
Q310 2SA952L
R377 2.2k
Q310 1SS133
R376 10k
R370 3.3
R373 150
C370 0.022μ
R374 75
REG
Q307 2SD2096EF
Q302 MTZJ8.2B
CNP6
TAPE SPEED
RV303 1k
R375 100k
R379 1k
R380 2.7k
Q308 2SK105A SPEED CONTROL
M901 REEL/CAPSTAN MOTOR
M
R378 10k
Q311 RN1202 MOTOR SWITCH
Q311 1SS133
Q312 1SS133
Q309 RN1202 SYNCHRO START
18


R BOARD]
D801
1N4002
D804
1N4002
C801
0.022μ
F801
T1.25AL
250V
T801 P.T
AC IN
CNJ801
D803
1N4002
C802
0.022μ
D802
1N4002
TERY
INAL
ARD
DRY BATTERY
SIZE"D"
(IEC DESIGNATION R20)
6PCS.9V

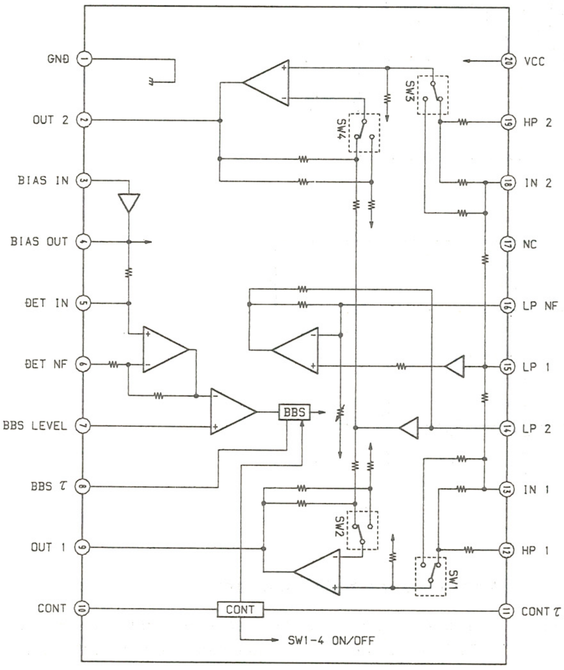
TOTAL CURRENT
FWD : 260mA
REC : 290mA
FF/REV : 330mA
DUBBING : 350mA

● IC BLOCK DIAGRAMS

IC301 BA3423S


1
2
3
4
5 L2L
6 L1L
7 PNFL
8
9
10 RL2
11 RL1
12 RNFR
13 NF
14
15
PB-L
SW
REC-L
ALC
PB-R
SW
REC-R
MIC
A/B R/P L/T
REG
LPF L
LPF R
32
31
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16

IC302 BA3870


GND 1
OUT 2 2
BIAS IN 3
BIAS OUT 4
DET IN 5
DET NF 6
BBS LEVEL 7
BBS τ 8
OUT 1 9
CONT 10
20 VCC
19 HP 2
18 IN 2
17 NC
16 LP NF
15 LP 1
14 LP 2
13 IN 1
12 HP 1
11 CONT τ
SW3
SW4
BBS
SW2
SW1
CONT
SW1-4 ON/OFF

Note :

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- ⊣W~⊢ : fusible resistor.

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- ▬ : B+ Line
- ▭ : adjustment for repair.

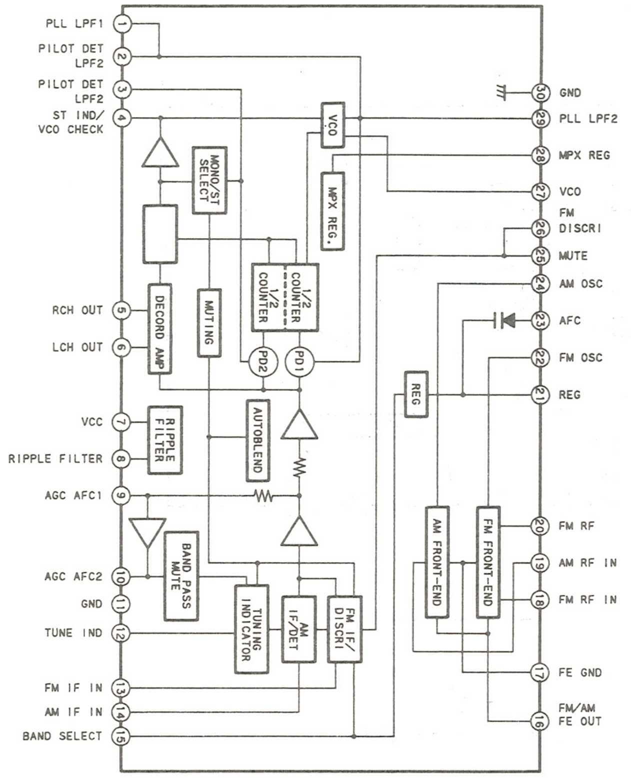
- Total current is measured with no cassette installed.
- Power voltage is dc 9V and fed with regulated dc power supply from external power voltage jack.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.

  no mark : REC
  (   ) : PLAY
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Signal path.

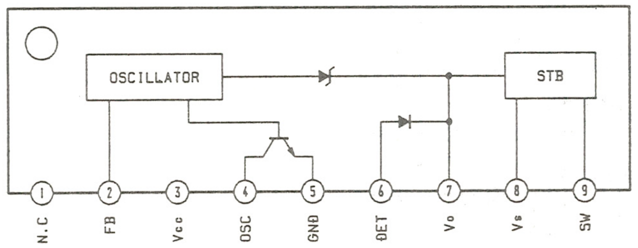
  ⇨ : FM
  ⊐ : PB (DECK A)
  ▭ : PB (DECK B)
  ⇒ : REC (DECK B)

● IC BLOCK DIAGRAMS

IC1 CXA1238S


PLL LPF1
PILOT DET LPF2
PILOT DET LPF2
ST IND/VCO CHECK
RCH OUT
LCH OUT
VCC
RIPPLE FILTER
AGC AFC1
AGC AFC2
GND
TUNE IND
FM IF IN
AM IF IN
BAND SELECT
GND
PLL LPF2
MPX REG
VCO
FM DISCRI
MUTE
AM OSC
AFC
FM OSC
REG
FM RF
AM RF IN
FM RF IN
FE GND
FM/AM FE OUT
VCO
MPX REG.
MONO/ST SELECT
1/2 COUNTER
1/2 COUNTER
PD1
PD2
DECORD AMP
MUTING
RIPPLE FILTER
AUTOBLEND
BAND PASS MUTE
TUNING INDICATOR
AM IF/DET
FM IF/DISCRI
REG
AM FRONT-END
FM FRONT-END

IC81 TA8148S


OSCILLATOR
STB
N.C
FB
Vcc
OSC
GND
DET
Vo
Vs
SW

Note on Printed Wiring Boards:

- ○— : parts extracted from the component side.
- ░ : Pattern on the side which is seen.

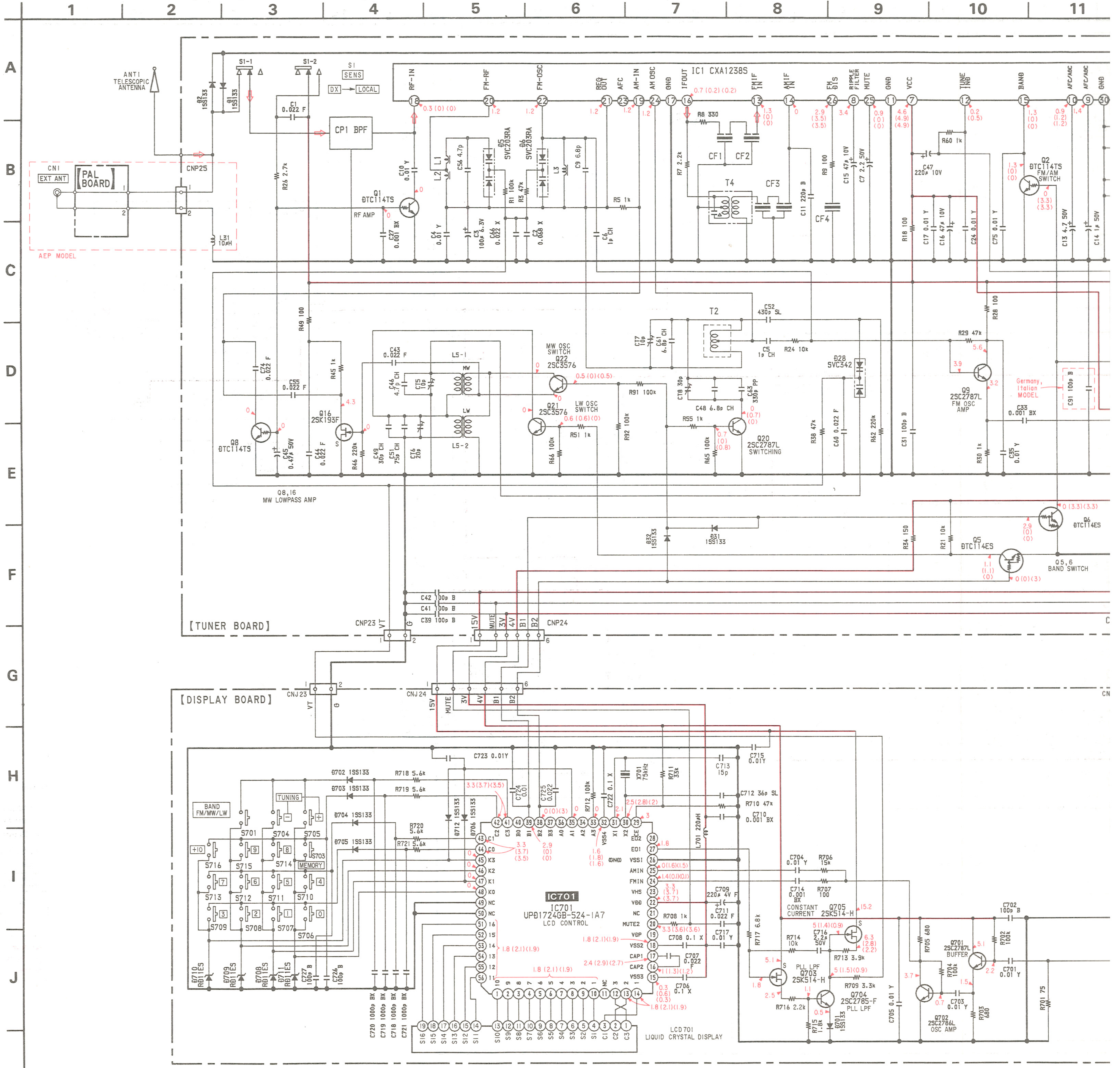
Note on Schematic Diagram :

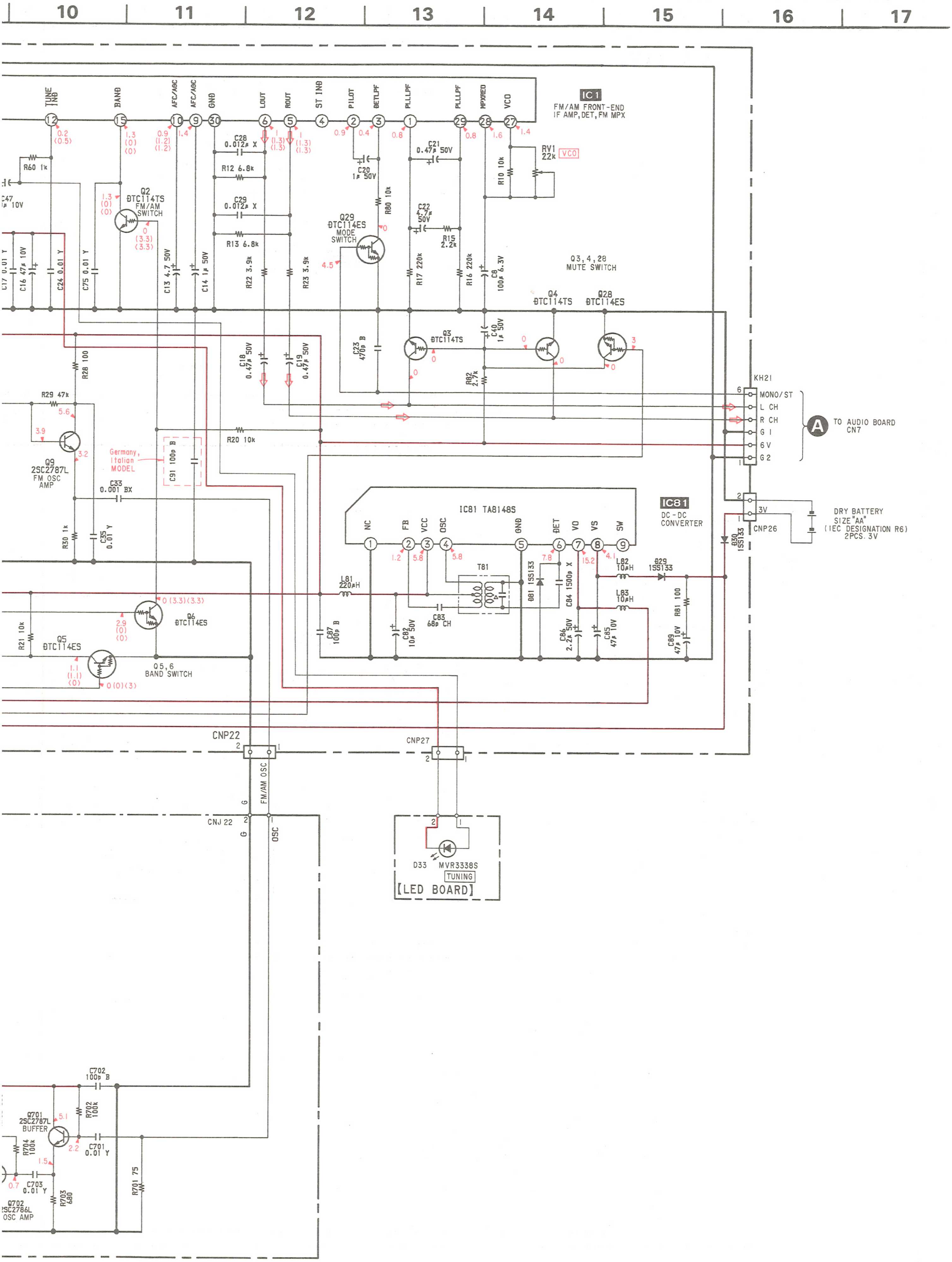
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.
- ▬ : B+ Line
- ☐ : adjustment for repair.
- Power voltage is dc 9V and fed with regulated dc power supply from external power voltage jack.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.

  no mark : FM
  (   ) : MW
  〈   〉 : LW
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Signal path.

  ⇨ : FM

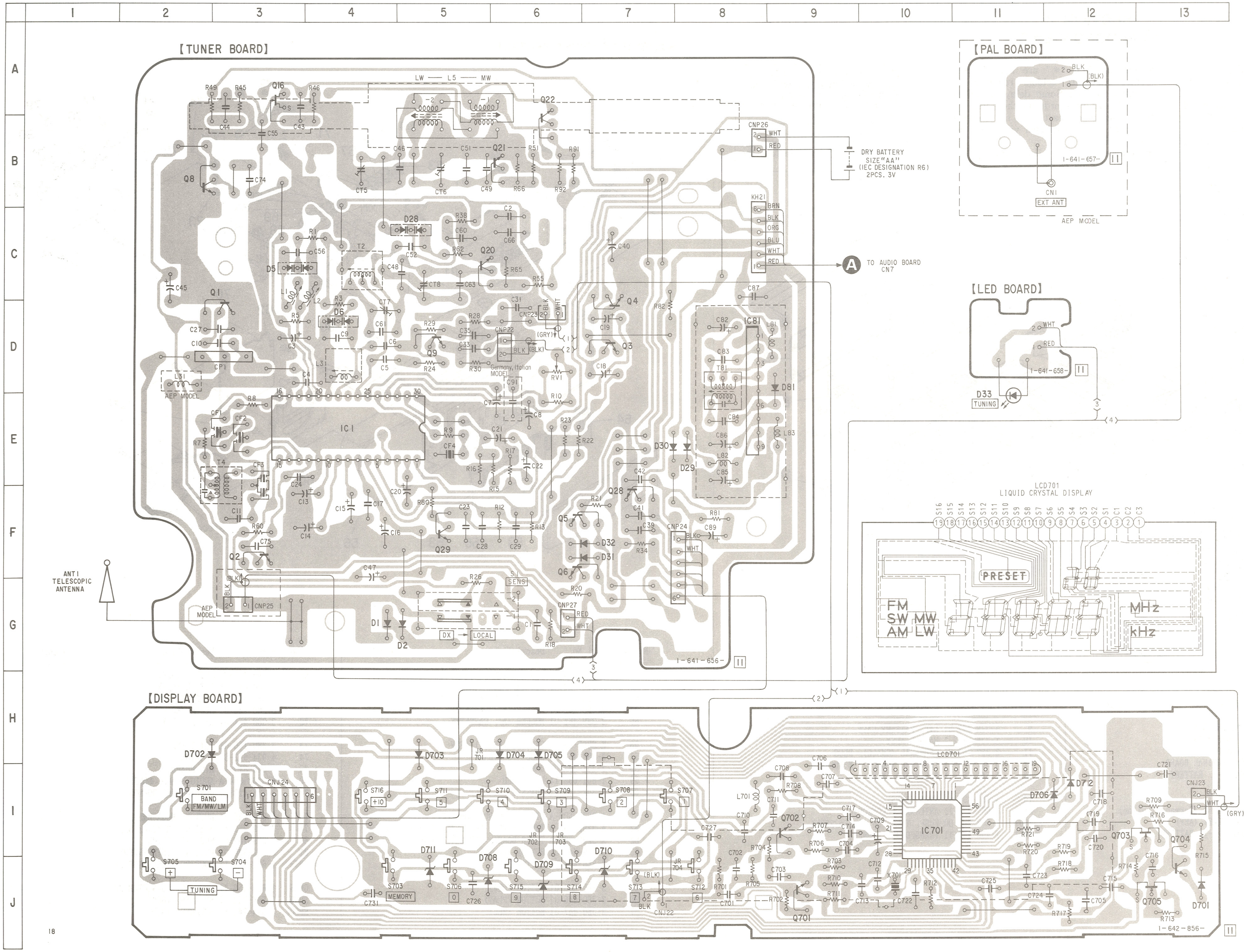
5-4. SCHEMATIC DIAGRAM (TUNER, DISPLAY SECTION)


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
ANTI TELESCOPIC ANTENNA
CN1 EXT ANT
[PAL BOARD]
AEP MODEL
S1-1
S1-2
S1 SENS
DX LOCAL
CP1 BPF
CNP25
Q1 DTC114TS RF AMP
IC1 CXA1238S
Q5 SVC203RA
Q6 SVC203RA
CF1
CF2
CF3
CF4
T4
T2
Q2 DTC114TS FM/AM SWITCH
MW OSC SWITCH Q22 2SC3576
Q21 2SC3576 LW OSC SWITCH
Q16 2SK195F
Q8 DTC114TS
Q8,16 MW LOWPASS AMP
L5-1 MW
L5-2 LW
Q20 2SC2787L SWITCHING
Q28 SVC342
Q9 2SC2787L FM OSC AMP
Germany, Italian MODEL
Q5 DTC114ES
Q6 DTC114ES
Q5,6 BAND SWITCH
[TUNER BOARD]
CNP23
CNP24
[DISPLAY BOARD]
CNJ23
CNJ24
BAND FM/MW/LW
TUNING
MEMORY
IC701
IC701 UPD1724GB-524-1A7 LCD CONTROL
Q705 2SK514-H CONSTANT CURRENT
Q703 2SK514-H PLL LPF
Q704 2SC2785-F PLL LPF
Q701 2SC2787L BUFFER
Q702 2SC2786L OSC AMP
LCD701 LIQUID CRYSTAL DISPLAY


10
11
12
13
14
15
16
17
IC1
FM/AM FRONT-END
IF AMP, DET, FM MPX
TUNE IND
BAND
AFC/AGC
AFC/AGC
GND
LOUT
ROUT
ST IND
PILOT
DETLPF
PLLLPF
PLLLPF
MPXRED
VCO
RV1 22k
VCO
R60 1k
C47 1µ 10V
Q2 DTC114TS FM/AM SWITCH
C28 0.012µ X
R12 6.8k
C29 0.012µ X
R13 6.8k
C20 1µ 50V
C21 0.47µ 50V
R80 10k
Q29 DTC114ES MODE SWITCH
C22 4.7µ 50V
R15 2.2k
R10 10k
C17 0.01 Y
C16 47µ 10V
C24 0.01 Y
C75 0.01 Y
C13 4.7 50V
C14 1µ 50V
R22 3.9k
R23 3.9k
R17 220k
R16 220k
C8 100µ 6.3V
Q3, 4, 28 MUTE SWITCH
Q4 DTC114TS
Q28 DTC114ES
Q3 DTC114TS
C23 470p B
C40 1µ 50V
R82 2.7k
C18 0.47µ 50V
C19 0.47µ 50V
R28 100
R29 47k
Q9 2SC2787L FM OSC AMP
Germany, Italian MODEL
C91 100p B
R20 10k
C33 0.001 BX
R30 1k
C35 0.01 Y
KH21
MONO/ST
L CH
R CH
G 1
6 V
G 2
A
TO AUDIO BOARD CN7
IC81 TA8148S
IC81
DC-DC CONVERTER
NC
FB
VCC
OSC
GND
DET
VO
VS
SW
T81
D81 1SS133
C84 1500p X
L81 220µH
L82 10µH
D29 1SS133
L83 10µH
R81 100
C87 100p B
C82 10µ 50V
C83 68p CH
C86 2.2µ 50V
C85 47µ 10V
C89 47µ 10V
D30 1SS133
CNP26
3V
DRY BATTERY SIZE "AA" (IEC DESIGNATION R6) 2PCS. 3V
R21 10k
Q5 DTC114ES
Q6 DTC114ES
Q5, 6 BAND SWITCH
CNP22
CNP27
FM/AM OSC
CNJ 22
G
OSC
D33 MVR3338S
TUNING
[LED BOARD]
C702 100p B
Q701 2SC2787L BUFFER
R702 100k
R704 100k
C701 0.01 Y
C703 0.01 Y
R703 680
R701 75
Q702 2SC2786L OSC AMP
0.2 (0.5)
1.3 (0) (0)
0.9 (1.2) (1.2)
1.4
1 (1.3) (1.3)
1 (1.3) (1.3)
0.9
0.4
0.8
0.8
1.6
1.4
1.3 (0) (0)
0 (3.3) (3.3)
4.5
0
5.6
3.9
3.2
0 (3.3)(3.3)
2.9 (0) (0)
1.1 (1.1) (0)
0 (0)(3)
1.2
5.8
5.8
7.8
15.2
4.1
5.1
2.2
1.5
0.7

5-5. PRINTED WIRING BOARDS (TUNER, DISPLAY SECTION)

- Refer to page 18 for Note.
- Refer to page 12 for Semiconductor Lead Layouts.



1 2 3 4 5 6 7 8 9 10 11 12 13
A B C D E F G H I J
【TUNER BOARD】
LW — L5 — MW
CNP26
WHT
RED
DRY BATTERY SIZE "AA" (IEC DESIGNATION R6) 2PCS. 3V
KH21
BRN
BLK
ORG
BLU
WHT
RED
TO AUDIO BOARD CN7
A
IC1
IC81
AEP MODEL
Germany, Italian MODEL
ANTI TELESCOPIC ANTENNA
CNP25
CNP27
S1 SENS
DX LOCAL
CNP24
1-641-656-11
【PAL BOARD】
CN1
EXT ANT
AEP MODEL
1-641-657-11
【LED BOARD】
D33 TUNING
1-641-658-11
LCD701 LIQUID CRYSTAL DISPLAY
PRESET
FM SW MW AM LW
MHz
kHz
【DISPLAY BOARD】
S701 BAND FM/MW/LM
CNJ24
S705 + S704 −
TUNING
S703 MEMORY
S716 +10
S711 5
S710 4
S709 3
S708 2
S707 1
S706 0
S715 9
S714 8
S713 7
S712 6
CNJ22
LCD701
IC701
CNJ23
(GRY)
1-642-856-11
18

SEMICONDUCTOR LOCATION

Ref. No.	Location
D1	G-4
D2	G-5
D5	C-3
D6	D-4
D28	C-5
D29	E-8
D30	E-8
D31	F-7
D32	F-7
D33	E-11
D81	D-9
D701	J-13
D702	H-3
D703	H-5
D704	H-6
D705	H-6
D706	I-12
D708	J-6
D709	J-6
D710	J-7
D711	J-5
D712	I-12
IC1	E-4
IC81	D-8
IC701	J-10
Q1	D-3
Q2	F-3
Q3	D-7
Q4	C-7
Q5	F-7
Q6	F-7
Q8	B-2
Q9	D-5
Q16	A-3
Q20	C-5
Q21	B-6
Q22	B-6
Q28	F-7
Q29	F-5
Q701	J-9
Q702	I-9
Q703	I-13
Q704	J-13
Q705	J-13

SECTION 6
EXPLODED VIEWS

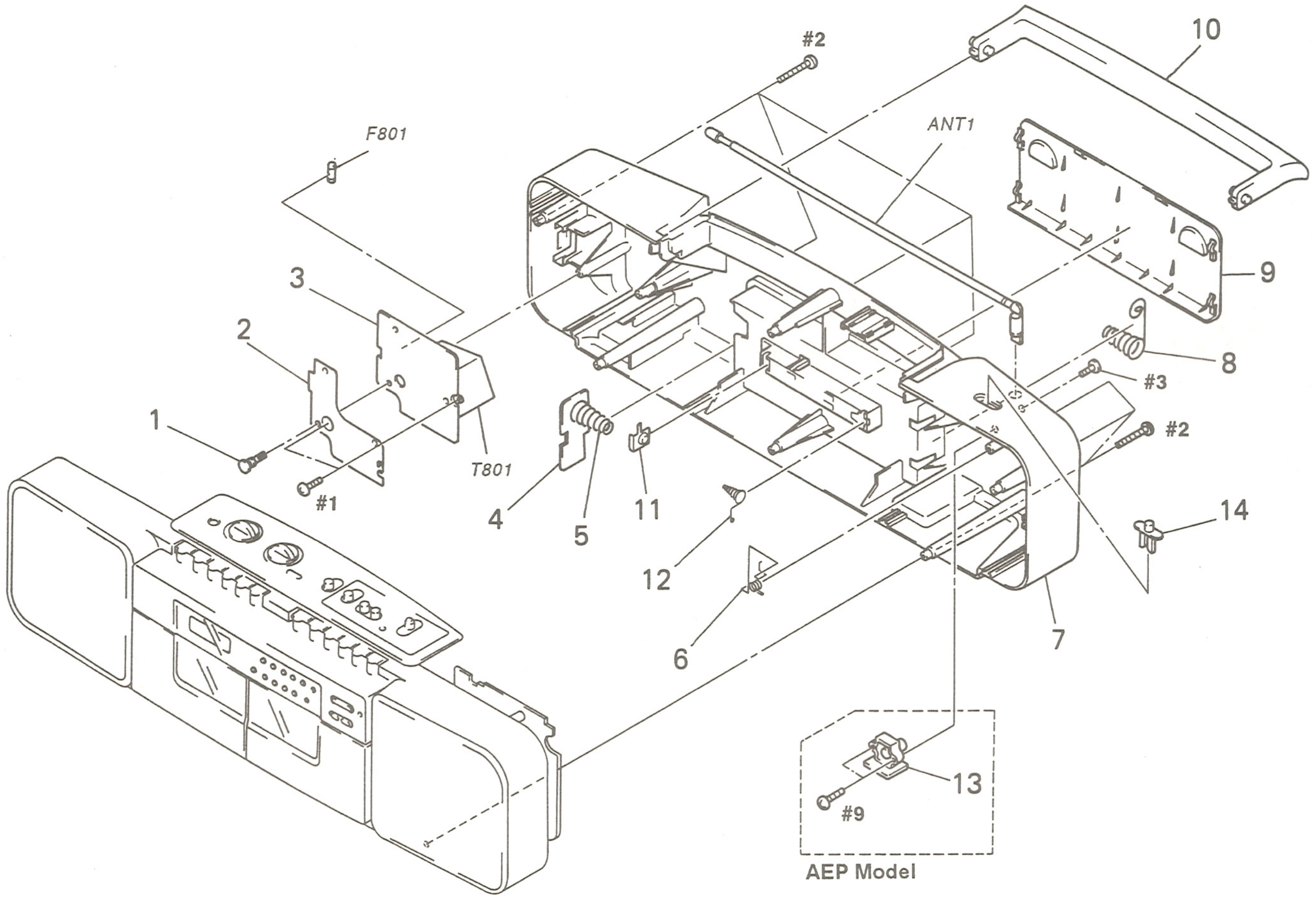
NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) .... (RED)
  ↑ Parts color ↑ Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

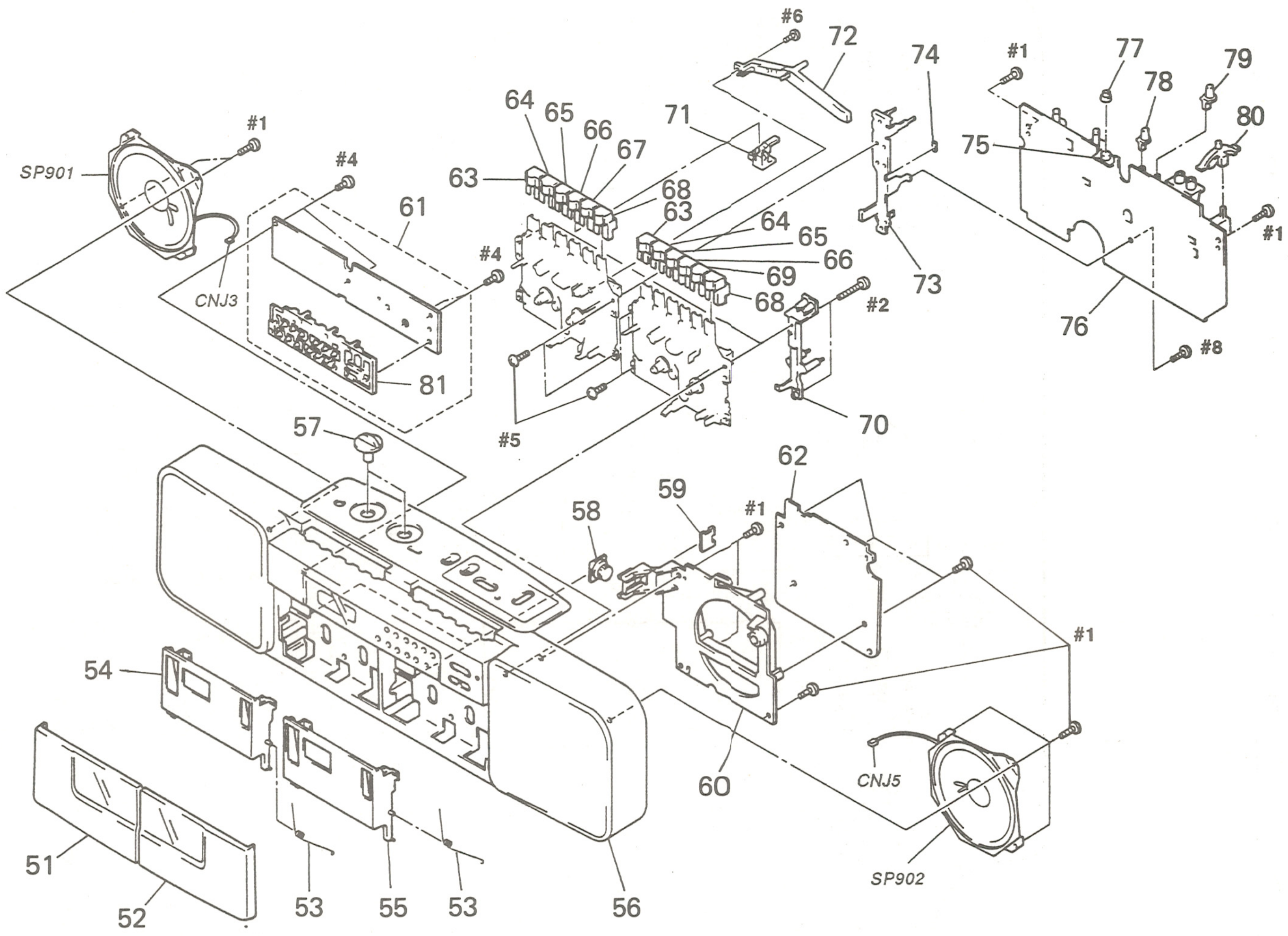
When indicating parts by reference number, please include the board.

6-1. REAR CABINET SECTION



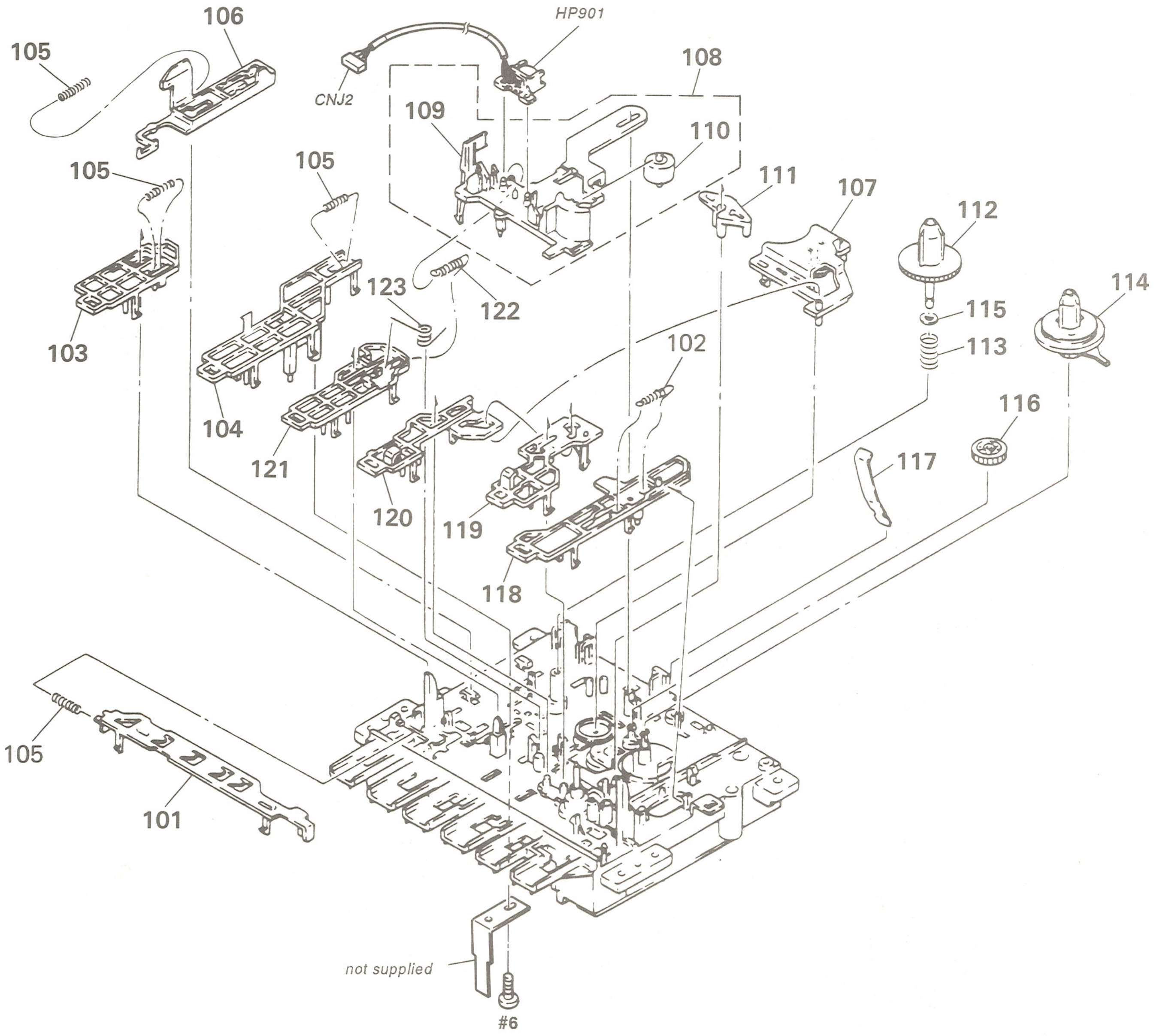
Ref. No.	Part No.	Description	Remark
1	4-812-134-00	RIVET NYLON, 3.5	
* 2	3-379-448-01	SHEET, INSULATING	
* 3	1-645-035-11	POWER BOARD	
* 4	1-645-036-11	BATTERY TERMINAL BOARD	
5	3-379-932-01	TERMINAL (-), BATTERY	
* 6	3-382-313-01	TERMINAL, ANT	
7	3-382-319-11	CABINET (REAR) (Germany, Italian)	
7	3-382-319-31	CABINET (REAR) (AEP)	
8	3-379-412-01	TERMINAL (+, -), BATTERY	
9	3-379-777-01	LID, BATTERY CASE	
10	X-3365-242-1	HANDLE ASSY	
11	3-367-753-01	TERMINAL (SMALL), PLUS	
12	3-367-754-01	TERMINAL (SMALL), MINUS	
* 13	1-641-657-11	PAL BOARD (AEP)	
14	3-381-401-01	KNOB (SENS)	
ANT1	1-501-378-11	ANTENNA, TELESCOPIC	
⚠F801	1-532-285-00	FUSE, TIME-LAG (1.25A/250V)	
⚠T801	1-450-492-11	TRANSFORMER, POWER	

6-2. FRONT CABINET SECTION



Ref. No.	Part No.	Description	Remark
51	X-3365-240-1	LID (B) ASSY, CASSETTE	
52	X-3365-239-1	LID (A) ASSY, CASSETTE	
53	3-380-442-01	SPRING, CASSETTE	
54	3-380-469-01	HOLDER (B), CASSETTE	
55	3-380-465-01	HOLDER (A), CASSETTE	
56	X-3365-524-1	CABINET (FRONT) ASSY	
57	3-380-458-01	KNOB (VOL/TONE)	
58	3-351-377-01	DAMPER	
* 59	1-641-658-11	LED BOARD	
* 60	3-382-317-01	CHASSIS	
* 61	A-3275-608-A	DISPLAY BOARD, COMPLETE	
* 62	A-3262-803-A	TUNER BOARD, COMPLETE (Germany, Italian)	
* 62	A-3262-805-A	TUNER BOARD, COMPLETE (AEP)	
63	3-380-443-01	BUTTON (PAUSE)	
64	3-380-444-01	BUTTON (FF)	
65	3-380-445-01	BUTTON (REW)	
66	3-380-446-01	BUTTON (PLAY)	
67	3-380-447-01	BUTTON (REC)	
68	3-380-448-01	BUTTON (S/E)	
69	3-380-449-01	BUTTON (H/S)	
* 70	3-380-453-01	BRACKET (P.C.B)	
* 71	3-380-456-01	LEVER (MD-C)	
* 72	3-380-451-01	LEVER (REC)	
73	3-380-160-01	JOINT (MD)	
74	4-934-522-01	CUSHION	
* 75	1-643-813-11	MIC BOARD	
* 76	A-3262-804-A	AUDIO BOARD, COMPLETE	
77	3-379-413-01	CUSHION (MICROPHONE)	
78	3-379-755-01	BUTTON (MEGA BASS)	
79	3-379-755-11	BUTTON (FM MODE/ISS)	
80	3-379-769-01	KNOB (FUNCTION)	
81	3-382-320-01	BUTTON (SYNTHESIZER)	
* CNJ3	1-691-559-11	HOUSING, CONNECTOR 2P	
* CNJ5	1-691-559-11	HOUSING, CONNECTOR 2P	
SP901	1-544-742-11	SPEAKER (10CM)	
SP902	1-544-742-11	SPEAKER (10CM)	

6-3. DECK A TAPE MECHANISM SECTION (1)
(MF-W308-64)


106
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HP901
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CNJ2
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not supplied
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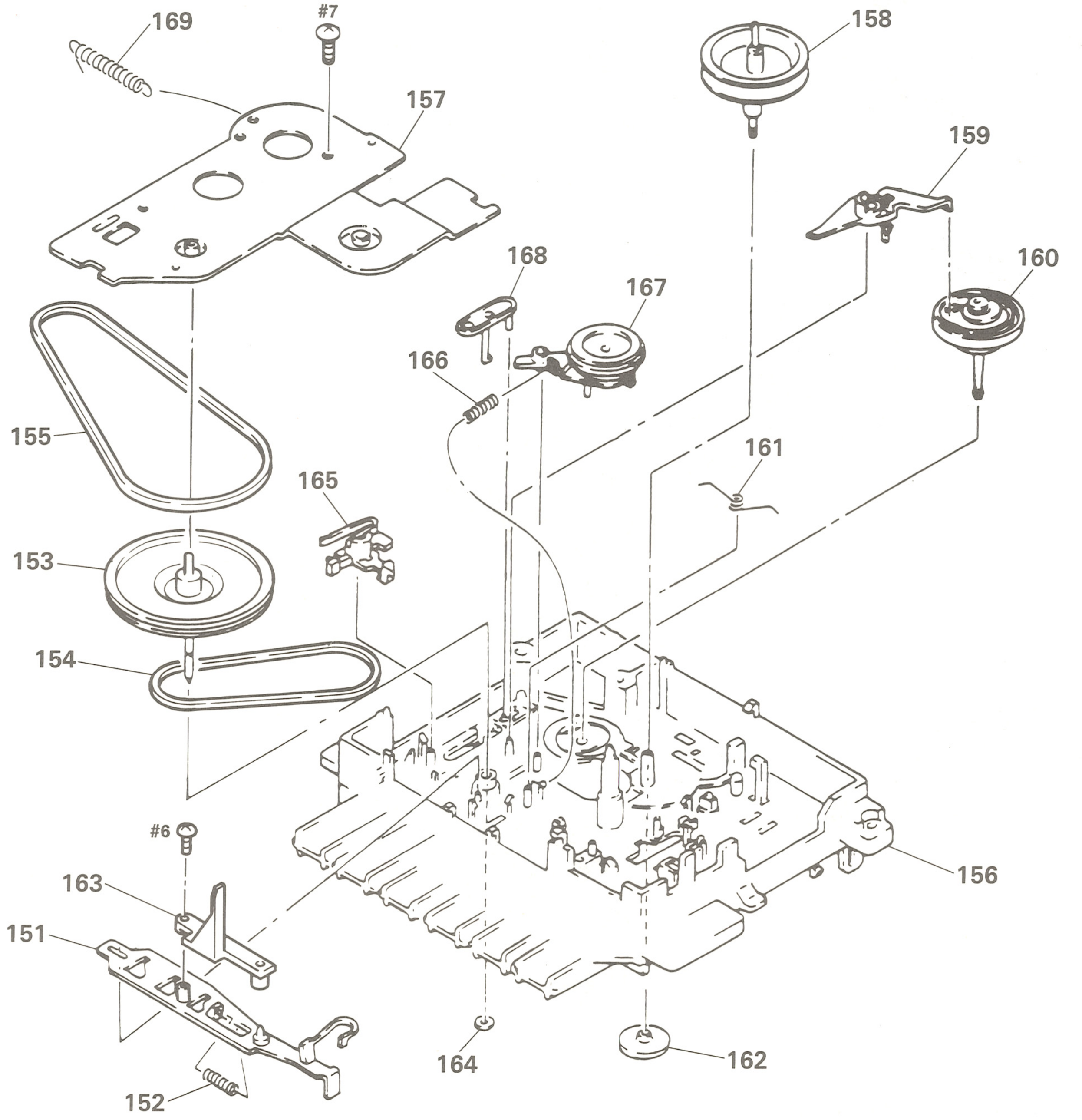
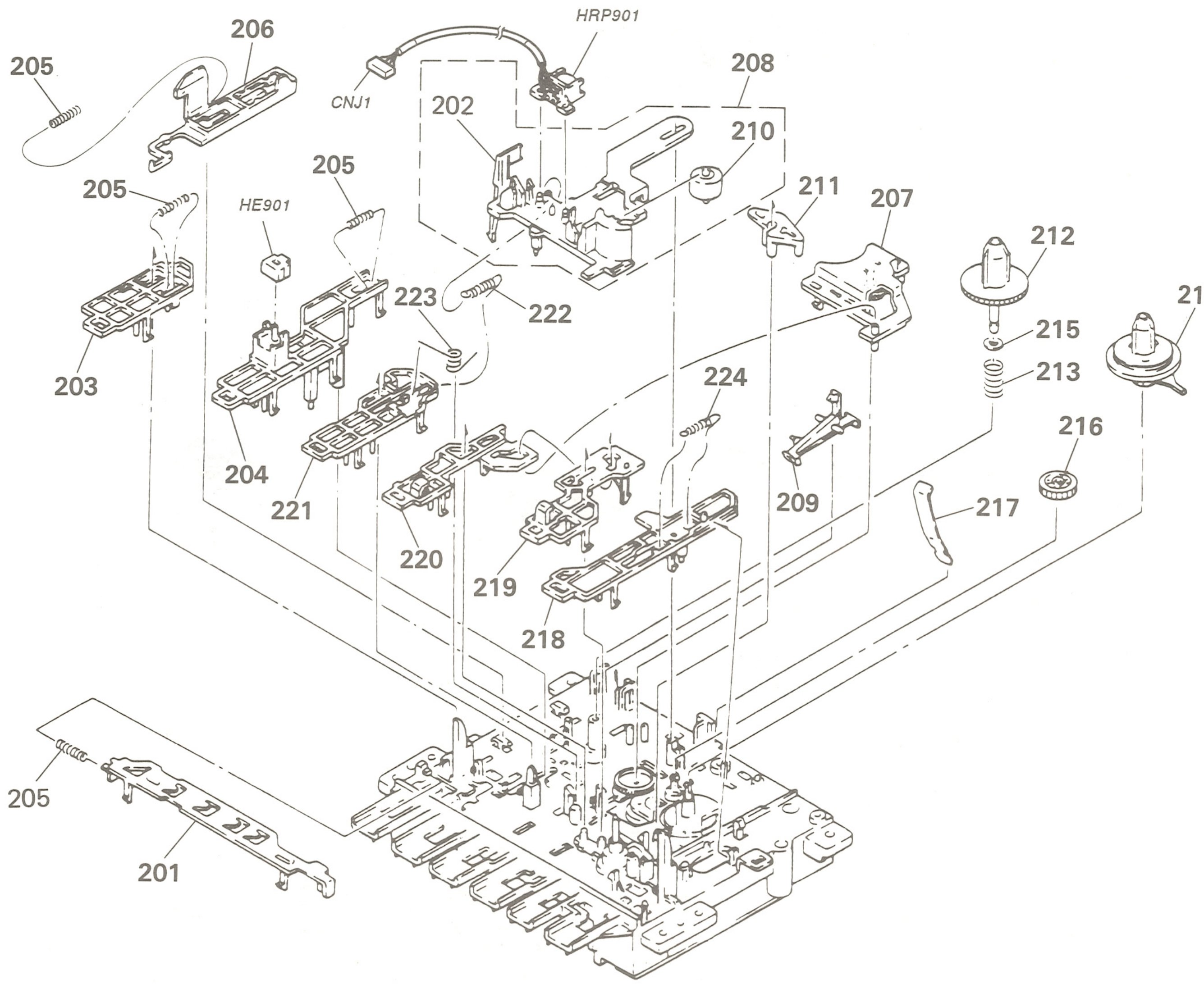
Ref. No.	Part No.	Description	Remark
101	4-932-695-01	SLIDER (FR), LOCK	
102	3-313-372-01	SPRING, TENSION	
103	4-928-985-11	LEVER, STOP	
104	4-921-195-01	LEVER (AC), REC	
105	4-932-648-01	SPRING, COMPRESSION	
106	4-936-206-01	SLIDER (S), EJECT	
107	X-4920-347-1	LEVER (S) ASSY, FR	
108	X-4918-577-1	HEAD (BASE) (S) ASSY	
109	4-928-998-01	DECK (S), HEAD	
110	4-928-962-01	PINCH ROLLER	
111	4-928-982-01	LEVER (C)	
112	4-928-978-01	GEAR (C), SUPPLY REEL	
113	3-343-381-01	SPRING, COMPRESSION	
114	X-4920-350-1	GEAR (S) ASSY, T REEL	
115	4-931-795-11	WASHER	
116	3-343-285-01	GEAR, FF	
117	4-928-957-01	RETAINER, CASSETTE	
118	4-928-994-01	LEVER, PAUSE	
119	4-928-993-01	LEVER, FF	
120	4-928-992-01	LEVER, REW	
121	4-928-991-01	LEVER, PLAY	
122	4-928-972-01	SPRING, TENSION	
123	4-928-973-01	SPRING	
* CNJ2	1-691-561-11	HOUSING, CONNECTOR 4P	
HP901	1-543-628-11	HEAD, MAGNETIC (PB)	

6-4. DECK A TAPE MECHANISM SECTION (2)
(MF-W308-64)



Ref. No.	Part No.	Description	Remark
151	4-928-996-11	LEVER, SW	
152	4-932-656-01	SPRING, COMPRESSION	
153	X-4920-923-1	WHEEL (W) ASSY, CAPSTAN	
154	4-928-974-01	BELT (MIDWAY)	
155	3-378-419-01	BELT (79X1)	
156	X-4920-348-1	CHASSIS (S) ASSY, MECHANICAL	
* 157	X-4918-598-1	PLATE ASSY, GROUND	
158	X-4920-922-1	PULLEY (W) ASSY, FR	
159	4-928-986-01	LEVER (S), SHUT-OFF	
160	X-4918-582-1	PLATE ASSY, TAKE-UP REEL	
161	4-928-958-01	SPRING, FR RETURN	
162	4-928-967-01	GEAR (C), MIDWAY	
* 163	3-380-452-01	LEVER (MD-B)	
164	3-343-358-01	RING, RETAINING	
165	4-928-987-01	LEVER (T), SHUT-OFF	
166	4-932-655-01	SPRING, COMPRESSION	
167	X-4920-346-1	LEVER (S) ASSY, IDLER	
168	4-928-961-01	PLATE, PAUSE LOCK	
169	3-378-420-01	SPRING, TENSION	

6-5. DECK B TAPE MECHANISM SECTION (1)
(MF-W308-64)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HRP901
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CNJ1
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HE901
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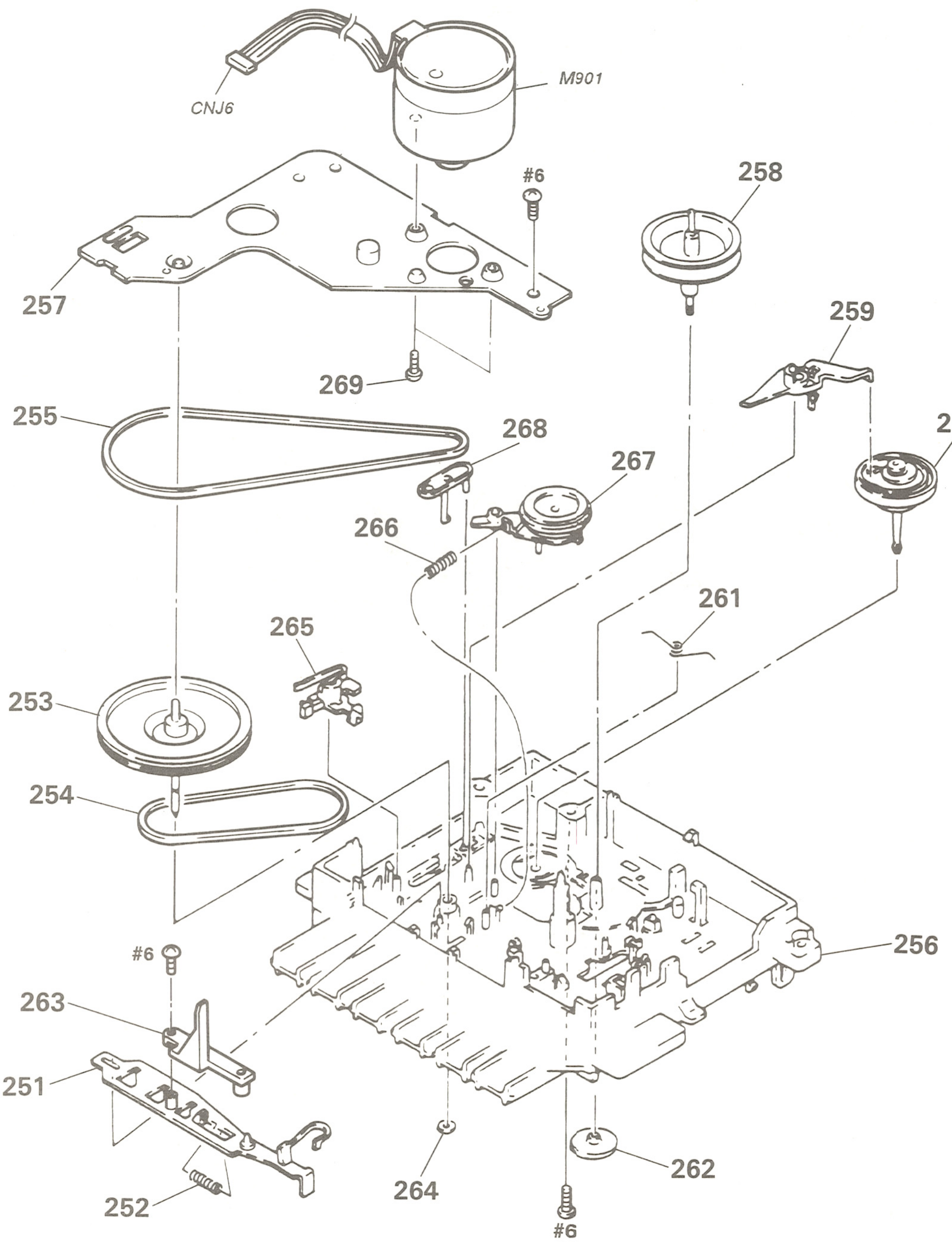
201

Ref. No.	Part No.	Description	Remark
201	4-932-695-01	SLIDER (FR), LOCK	
202	4-928-998-01	DECK (S), HEAD	
203	4-928-985-01	LEVER, STOP	
204	4-934-511-01	LEVER (S), REC	
205	4-932-648-01	SPRING, COMPRESSION	
206	4-936-206-01	SLIDER (S), EJECT	
207	X-4920-347-1	LEVER (S) ASSY, FR	
208	X-4918-577-1	HEAD (BASE) (S) ASSY	
209	4-928-960-02	CLAW, SAFETY	
210	4-928-962-01	PINCH ROLLER	
211	4-928-982-01	LEVER (C)	
212	4-928-978-01	GEAR (C), SUPPLY REEL	
213	3-343-381-01	SPRING, COMPRESSION	
214	X-4920-350-1	GEAR (S) ASSY, T REEL	
215	4-931-795-11	WASHER	
216	3-343-285-01	GEAR, FF	
217	4-928-957-01	RETAINER, CASSETTE	
218	4-928-994-01	LEVER, PAUSE	
219	4-928-993-01	LEVER, FF	
220	4-928-992-01	LEVER, REW	
221	4-928-991-01	LEVER, PLAY	
222	4-928-972-01	SPRING, TENSION	
223	4-928-973-01	SPRING	
224	3-313-372-01	SPRING, TENSION	
* CNJ1	1-691-562-11	HOUSING, CONNECTOR 5P	
HE901	1-543-525-11	HEAD, MAGNETIC (ERASE)	
HRP901	1-543-628-11	HEAD, MAGNETIC (REC/PB)	

6-6. DECK B TAPE MECHANISM SECTION (2)
(MF-W308-64)



Ref. No.	Part No.	Description	Remark
251	4-928-996-11	LEVER, SW	
252	4-932-656-01	SPRING, COMPRESSION	
253	X-4920-923-1	WHEEL (W) ASSY, CAPSTAN	
254	4-928-974-01	BELT (MIDWAY)	
255	3-369-312-01	BELT (59X1)	
256	X-4920-348-1	CHASSIS (S) ASSY, MECHANICAL	
257	X-4920-921-1	PLATE (W) ASSY, GROUND	
258	X-4920-922-1	PULLEY (W) ASSY, FR	
259	4-928-986-01	LEVER (S), SHUT-OFF	
260	X-4918-582-1	PLATE ASSY, TAKE-UP REEL	
261	4-928-958-01	SPRING, FR RETURN	

Ref. No.	Part No.	Description	Remark
262	4-928-967-01	GEAR (C), MIDWAY	
* 263	3-380-452-01	LEVER (MD-B)	
264	3-343-358-01	RING, RETAINING	
265	4-928-987-01	LEVER (T), SHUT-OFF	
266	4-932-655-01	SPRING, COMPRESSION	
267	X-4920-346-1	LEVER (S) ASSY, IDLER	
268	4-928-961-01	PLATE, PAUSE LOCK	
269	3-343-251-01	SCREW (M2.6X2.5)	
* CNJ6	1-691-561-11	HOUSING, CONNECTOR 4P	
M901	X-4920-924-1	MOTOR ASSY (REEL/CAPSTAN)	

SECTION 7
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA ..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	A-3262-804-A	AUDIO BOARD, COMPLETE *********************			
		< CAPACITOR >			
C101	1-163-199-00	CERAMIC MELF	560PF	10%	50V
C102	1-163-199-00	CERAMIC MELF	560PF	10%	50V
C103	1-124-126-00	ELECT	47uF	20%	10V
C104	1-162-840-11	CERAMIC	0.012uF	10%	16V
C105	1-163-197-00	CERAMIC MELF	470PF	10%	50V
C106	1-162-832-11	CERAMIC	0.0027uF	10%	16V
C107	1-124-927-11	ELECT	4.7uF	20%	100V
C108	1-163-199-00	CERAMIC MELF	560PF	10%	50V
C109	1-124-927-11	ELECT	4.7uF	20%	100V
C110	1-124-902-00	ELECT	0.47uF	20%	50V
C111	1-163-181-00	CERAMIC MELF	100PF	10%	50V
C112	1-163-209-00	CERAMIC MELF	0.0015uF	20%	16V
C120	1-161-020-11	CERAMIC	0.039uF	10%	16V
C121	1-124-903-11	ELECT	1uF	20%	50V
C122	1-163-213-00	CERAMIC CHIP	0.0022uF	5%	50V
C123	1-124-925-11	ELECT	2.2uF	20%	100V
C124	1-162-397-11	CERAMIC MELF	0.001uF	10%	50V
C130	1-124-126-00	ELECT	47uF	20%	10V
C131	1-124-443-00	ELECT	100uF	20%	10V
C132	1-130-495-00	MYLAR	0.1uF	5%	50V
C133	1-124-471-00	ELECT	1000uF	20%	6.3V
C201	1-163-199-00	CERAMIC MELF	560PF	10%	50V
C202	1-163-199-00	CERAMIC MELF	560PF	10%	50V
C203	1-124-126-00	ELECT	47uF	20%	10V
C204	1-162-840-11	CERAMIC	0.012uF	10%	16V
C205	1-163-197-00	CERAMIC MELF	470PF	10%	50V
C206	1-162-832-11	CERAMIC	0.0027uF	10%	16V
C207	1-124-927-11	ELECT	4.7uF	20%	100V
C208	1-163-199-00	CERAMIC MELF	560PF	10%	50V
C209	1-124-927-11	ELECT	4.7uF	20%	100V

Ref. No.	Part No.	Description			Remark
C210	1-124-902-00	ELECT	0.47uF	20%	50V
C211	1-163-181-00	CERAMIC MELF	100PF	10%	50V
C212	1-163-209-00	CERAMIC MELF	0.0015uF	20%	16V
C220	1-161-020-11	CERAMIC	0.039uF	10%	16V
C221	1-124-903-11	ELECT	1uF	20%	50V
C222	1-163-213-00	CERAMIC CHIP	0.0022uF	5%	50V
C223	1-124-925-11	ELECT	2.2uF	20%	100V
C224	1-162-397-11	CERAMIC MELF	0.001uF	10%	50V
C230	1-124-126-00	ELECT	47uF	20%	10V
C231	1-124-443-00	ELECT	100uF	20%	10V
C232	1-130-495-00	MYLAR	0.1uF	5%	50V
C233	1-124-471-00	ELECT	1000uF	20%	6.3V
C301	1-124-126-00	ELECT	47uF	20%	10V
C302	1-124-927-11	ELECT	4.7uF	20%	100V
C303	1-124-907-11	ELECT	10uF	20%	50V
C304	1-124-907-11	ELECT	10uF	20%	50V
C305	1-124-907-11	ELECT	10uF	20%	50V
C306	1-124-903-11	ELECT	1uF	20%	50V
C307	1-162-851-11	CERAMIC	0.1uF	10%	16V
C308	1-163-063-00	CERAMIC MELF	0.022uF		25V
C309	1-124-443-00	ELECT	100uF	20%	10V
C310	1-163-063-00	CERAMIC MELF	0.022uF		25V
C311	1-126-176-11	ELECT	220uF	20%	10V
C320	1-124-902-00	ELECT	0.47uF	20%	50V
C321	1-161-057-00	CERAMIC	0.033uF	10%	50V
C322	1-161-057-00	CERAMIC	0.033uF	10%	50V
C323	1-124-034-51	ELECT	33uF	20%	16V
C324	1-124-907-11	ELECT	10uF	20%	50V
C325	1-126-233-11	ELECT	22uF	20%	50V
C326	1-124-464-11	ELECT	0.22uF	20%	50V
C327	1-124-443-00	ELECT	100uF	20%	10V
C328	1-163-063-00	CERAMIC MELF	0.022uF		25V
C330	1-124-120-11	ELECT	220uF	20%	25V
C332	1-124-887-00	ELECT	3300uF	20%	16V

AUDIO

Ref. No.	Part No.	Description			Remark
C340	1-163-059-00	CERAMIC CHIP	0.01uF	10%	50V
C341	1-163-053-00	CERAMIC MELF	0.0033uF	20%	16V
C342	1-130-471-00	MYLAR	0.001uF	5%	50V
C343	1-163-185-00	CERAMIC MELF	150PF	10%	50V
C344	1-124-126-00	ELECT	47uF	20%	10V
C345	1-163-063-00	CERAMIC MELF	0.022uF		25V
C350	1-126-233-11	ELECT	22uF	20%	50V
C351	1-126-233-11	ELECT	22uF	20%	50V
C360	1-163-063-00	CERAMIC MELF	0.022uF		25V
C361	1-126-176-11	ELECT	220uF	20%	10V
C362	1-163-063-00	CERAMIC MELF	0.022uF		25V
C370	1-163-063-00	CERAMIC MELF	0.022uF		25V
		< CONNECTOR >			
* CN7	1-568-272-11	SOCKET, CONNECTOR 6P			
CNP1	1-506-987-11	PIN, CONNECTOR (PC BOARD) 5P			
CNP2	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
* CNP3	1-691-573-11	PIN, CONNECTOR (PC BOARD) 2P			
* CNP4	1-691-573-21	PIN, CONNECTOR (PC BOARD) 2P			
* CNP5	1-691-573-11	PIN, CONNECTOR (PC BOARD) 2P			
CNP6	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
		< DIODE >			
D301	8-719-109-97	DIODE	RD6.8ES-B2		
D302	8-719-110-08	DIODE	RD8.2ES-B2		
D303	8-719-980-67	LED	MVR3338S (OPR/BATT)		
D304	8-719-911-19	DIODE	1SS119		
D305	8-719-911-19	DIODE	1SS119		
D306	8-719-911-19	DIODE	1SS119		
D307	8-719-911-19	DIODE	1SS119		
D308	8-719-911-19	DIODE	1SS119		
D309	8-719-911-19	DIODE	1SS119		
D310	8-719-911-19	DIODE	1SS119		
D311	8-719-911-19	DIODE	1SS119		
D312	8-719-911-19	DIODE	1SS119		
		< IC >			
IC301	8-759-048-59	IC	BA3423S		
IC302	8-759-048-60	IC	BA3870		
IC303	8-759-060-21	IC	LA4598		
		< JACK >			
J301	1-566-891-11	JACK (Ω PHONES)			
J302	1-563-716-21	JACK, PIN 2P (CD/LINE IN)			
		< JUMPER RESISTOR >			
JR101	1-216-296-00	METAL CHIP	0	5%	1/8W
JR102	1-216-296-00	METAL CHIP	0	5%	1/8W

Ref. No.	Part No.	Description			Remark
JR103	1-216-296-00	METAL CHIP	0	5%	1/8W
JR104	1-216-296-00	METAL CHIP	0	5%	1/8W
JR105	1-216-296-00	METAL CHIP	0	5%	1/8W
JR106	1-216-296-00	METAL CHIP	0	5%	1/8W
JR107	1-216-296-00	METAL CHIP	0	5%	1/8W
		< TRANSISTOR >			
Q301	8-729-206-20	TRANSISTOR	RN1202		
Q302	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q303	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q304	8-729-206-20	TRANSISTOR	RN1202		
Q305	8-729-140-98	TRANSISTOR	2SD773-34		
Q306	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q307	8-729-920-92	TRANSISTOR	2SD2096-EF		
Q308	8-729-115-30	TRANSISTOR	2SK105A-30		
Q309	8-729-206-20	TRANSISTOR	RN1202		
Q310	8-729-195-23	TRANSISTOR	2SA952-K2		
Q311	8-729-206-20	TRANSISTOR	RN1202		
Q315	8-729-206-20	TRANSISTOR	RN1202		
		< RESISTOR >			
R101	1-249-409-11	CARBON	220	5%	1/4W
R102	1-249-409-11	CARBON	220	5%	1/4W
R103	1-249-406-11	CARBON	120	5%	1/4W
R104	1-215-479-00	METAL	270K	1%	1/6W
R105	1-249-425-11	CARBON	4.7K	5%	1/4W
R106	1-249-429-11	CARBON	10K	5%	1/4W
R107	1-249-429-11	CARBON	10K	5%	1/4W
R108	1-249-437-11	CARBON	47K	5%	1/4W
R109	1-249-416-11	CARBON	820	5%	1/4W
R110	1-249-429-11	CARBON	10K	5%	1/4W
R111	1-249-425-11	CARBON	4.7K	5%	1/4W
R112	1-249-426-11	CARBON	5.6K	5%	1/4W
R120	1-215-493-00	METAL	1M	1%	1/6W
R121	1-249-421-11	CARBON	2.2K	5%	1/4W
R122	1-249-429-11	CARBON	10K	5%	1/4W
R130	1-249-405-11	CARBON	100	5%	1/4W
R131	1-249-405-11	CARBON	100	5%	1/4W
R201	1-249-409-11	CARBON	220	5%	1/4W
R202	1-249-409-11	CARBON	220	5%	1/4W
R203	1-249-406-11	CARBON	120	5%	1/4W
R204	1-215-479-00	METAL	270K	1%	1/6W
R205	1-249-425-11	CARBON	4.7K	5%	1/4W
R206	1-249-429-11	CARBON	10K	5%	1/4W
R207	1-249-429-11	CARBON	10K	5%	1/4W
R208	1-249-437-11	CARBON	47K	5%	1/4W
R209	1-249-416-11	CARBON	820	5%	1/4W
R210	1-249-429-11	CARBON	10K	5%	1/4W
R211	1-249-425-11	CARBON	4.7K	5%	1/4W

AUDIO BATTERY TERMINAL DISPLAY

Ref. No.	Part No.	Description				Remark
R212	1-249-426-11	CARBON	5.6K	5%	1/4W	
R220	1-215-493-00	METAL	1M	1%	1/6W	
R221	1-249-421-11	CARBON	2.2K	5%	1/4W	
R222	1-249-429-11	CARBON	10K	5%	1/4W	
R230	1-249-405-11	CARBON	100	5%	1/4W	
R231	1-249-405-11	CARBON	100	5%	1/4W	
R301	1-215-493-00	METAL	1M	1%	1/6W	
R302	1-249-435-11	CARBON	33K	5%	1/4W	
R303	1-249-435-11	CARBON	33K	5%	1/4W	
R304	1-249-435-11	CARBON	33K	5%	1/4W	
R305	1-249-435-11	CARBON	33K	5%	1/4W	
R306	1-249-417-11	CARBON	1K	5%	1/4W	
R307	1-249-417-11	CARBON	1K	5%	1/4W	
R320	1-249-427-11	CARBON	6.8K	5%	1/4W	
R321	1-249-424-11	CARBON	3.9K	5%	1/4W	
R322	1-215-493-00	METAL	1M	1%	1/6W	
R324	1-249-402-11	CARBON	56	5%	1/4W	
R325	1-249-441-11	CARBON	100K	5%	1/4W	
R326	1-249-418-11	CARBON	1.2K	5%	1/4W	
R340	1-249-411-11	CARBON	330	5%	1/4W	
R341	1-249-393-11	CARBON	10	5%	1/4W	
R342	1-249-435-11	CARBON	33K	5%	1/4W	
R350	1-249-417-11	CARBON	1K	5%	1/4W	
R351	1-249-417-11	CARBON	1K	5%	1/4W	
R352	1-249-426-11	CARBON	5.6K	5%	1/4W	
R353	1-249-417-11	CARBON	1K	5%	1/4W	
⚠R360	1-219-113-11	FUSIBLE	6.8	5%	1/4W	F
R361	1-249-416-11	CARBON	820	5%	1/4W	
R362	1-249-410-11	CARBON	270	5%	1/4W	
R363	1-249-411-11	CARBON	330	5%	1/4W	
R364	1-249-405-11	CARBON	100	5%	1/4W	
R365	1-215-477-00	METAL	220K	1%	1/6W	
R366	1-249-421-11	CARBON	2.2K	5%	1/4W	
R367	1-249-421-11	CARBON	2.2K	5%	1/4W	
⚠R370	1-219-162-11	FUSIBLE	3.3	5%	1/4W	F
R371	1-249-421-11	CARBON	2.2K	5%	1/4W	
R372	1-215-477-00	METAL	220K	1%	1/6W	
R373	1-249-407-11	CARBON	150	5%	1/4W	
R374	1-247-804-11	CARBON	75	5%	1/4W	
R375	1-249-441-11	CARBON	100K	5%	1/4W	
R376	1-249-429-11	CARBON	10K	5%	1/4W	
R377	1-249-421-11	CARBON	2.2K	5%	1/4W	
R378	1-249-429-11	CARBON	10K	5%	1/4W	
R379	1-249-417-11	CARBON	1K	5%	1/4W	
R380	1-249-422-11	CARBON	2.7K	5%	1/4W	

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remark
RV301	1-241-745-11	RES, VAR, CARBON 20K/20K (TONE)	
RV302	1-241-746-11	RES, VAR, CARBON 20K/20K (VOLUME)	
RV303	1-230-494-11	RES, ADJ, CARBON 1K (TAPE SPEED)	

< SWITCH >

Ref. No.	Part No.	Description	Remark
S301	1-572-325-11	SWITCH, SLIDE (RECORD/PLAYBACK)	
S302	1-572-771-11	SWITCH, LEVER SLIDE (FUNCTION)	
S303	1-572-006-11	SWITCH, PUSH (1 KEY) (MEGA BASS)	
S304	1-572-006-11	SWITCH, PUSH (1 KEY) (FM MODE/ISS)	
S401	1-692-080-11	SWITCH, PUSH (1 KEY) (B-POWER)	
S402	1-692-080-11	SWITCH, PUSH (1 KEY) (A/B)	
S403	1-692-080-11	SWITCH, PUSH (1 KEY) (A-POWER)	
S404	1-692-080-11	SWITCH, PUSH (1 KEY) (HIGH SPEED)	

< TRANSFORMER >

Ref. No.	Part No.	Description	Remark
T301	1-433-346-11	TRANSFORMER, BIAS OSCILLATOR	

****

Ref. No.	Part No.	Description
*	1-645-036-11	BATTERY TERMINAL BOARD

****

Ref. No.	Part No.	Description
	3-379-932-01	TERMINAL (-), BATTERY

****

Ref. No.	Part No.	Description
*	A-3275-608-A	DISPLAY BOARD, COMPLETE

****

Ref. No.	Part No.	Description
*	1-562-683-11	CONTACT, SMALL MICRO
*	1-563-972-11	HOUSING, CONNECTOR 2P
*	1-563-976-11	HOUSING, CONNECTOR 6P
*	1-566-497-11	PIN, CONNECTOR
*	3-382-314-01	PLATE (LCD), SHIELD
	3-382-320-01	BUTTON (SYNTHESIZER)

< CAPACITOR >

Ref. No.	Part No.	Description			
C701	1-163-059-00	CERAMIC CHIP	0.01uF	10%	50V
C702	1-163-181-00	CERAMIC MELF	100PF	10%	50V
C703	1-163-059-00	CERAMIC CHIP	0.01uF	10%	50V
C704	1-163-059-00	CERAMIC CHIP	0.01uF	10%	50V
C705	1-163-059-00	CERAMIC CHIP	0.01uF	10%	50V
C706	1-164-159-11	CERAMIC	0.1uF		50V
C707	1-163-063-00	CERAMIC MELF	0.022uF		25V
C708	1-164-159-11	CERAMIC	0.1uF		50V
C709	1-124-576-11	ELECT	220uF	20%	4V
C710	1-162-397-11	CERAMIC MELF	0.001uF	10%	50V
C711	1-163-063-00	CERAMIC MELF	0.022uF		25V
C712	1-163-170-00	CERAMIC MELF	36PF	5%	50V
C713	1-163-161-00	CERAMIC MELF	15PF	5%	50V
C714	1-162-397-11	CERAMIC MELF	0.001uF	10%	50V
C715	1-163-059-00	CERAMIC CHIP	0.01uF	10%	50V
C716	1-124-767-00	ELECT	2.2uF	20%	50V
C717	1-163-059-00	CERAMIC CHIP	0.01uF	10%	50V
C718	1-162-397-11	CERAMIC MELF	0.001uF	10%	50V

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

DISPLAY

Ref. No.	Part No.	Description			Remark
C719	1-162-397-11	CERAMIC MELF	0.001uF	10%	50V
C720	1-162-397-11	CERAMIC MELF	0.001uF	10%	50V
C721	1-162-397-11	CERAMIC MELF	0.001uF	10%	50V
C722	1-164-159-11	CERAMIC	0.1uF		50V
C723	1-163-059-00	CERAMIC CHIP	0.01uF	10%	50V
C724	1-163-059-00	CERAMIC CHIP	0.01uF	10%	50V
C725	1-163-063-00	CERAMIC MELF	0.022uF		25V
C726	1-163-181-00	CERAMIC MELF	100PF	10%	50V
C727	1-163-181-00	CERAMIC MELF	100PF	10%	50V
		< CONNECTOR >			
* CNJ22	1-562-680-11	CONNECTOR, SMALL MICRO 2P			
* CNJ23	1-691-559-11	HOUSING, CONNECTOR 2P			
* CNJ24	1-691-563-11	HOUSING, CONNECTOR 6P			
		< DIODE >			
D701	8-719-911-19	DIODE 1SS119			
D702	8-719-911-19	DIODE 1SS119			
D703	8-719-911-19	DIODE 1SS119			
D704	8-719-911-19	DIODE 1SS119			
D705	8-719-911-19	DIODE 1SS119			
D706	8-719-911-19	DIODE 1SS119			
D708	8-719-110-21	DIODE RD11ES-B1			
D709	8-719-110-21	DIODE RD11ES-B1			
D710	8-719-110-21	DIODE RD11ES-B1			
D711	8-719-110-21	DIODE RD11ES-B1			
D712	8-719-911-19	DIODE 1SS119			
		< IC >			
IC701	8-759-151-26	IC uPD1724GB-524-1A7			
		< JUMPER RESISTOR >			
JR701	1-216-296-00	METAL CHIP	0	5%	1/8W
JR702	1-216-296-00	METAL CHIP	0	5%	1/8W
JR703	1-216-296-00	METAL CHIP	0	5%	1/8W
JR704	1-216-296-00	METAL CHIP	0	5%	1/8W
		< COIL >			
L701	1-410-336-11	INDUCTOR	220uH		
		< LIQUID CRYSTAL DISPLAY >			
LCD701	1-809-079-21	DISPLAY PANEL, LIQUID CRYSTAL			
		< TRANSISTOR >			
Q701	8-729-178-73	TRANSISTOR 2SC2787-K			
Q702	8-729-178-62	TRANSISTOR 2SC2786-L			
Q703	8-729-106-07	TRANSISTOR 2SK514-H			
Q704	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q705	8-729-106-07	TRANSISTOR 2SK514-H			
		< RESISTOR >			
R701	1-215-394-00	METAL	75	1%	1/6W
R702	1-249-441-11	CARBON	100K	5%	1/4W
R703	1-249-415-11	CARBON	680	5%	1/4W
R704	1-249-441-11	CARBON	100K	5%	1/4W
R705	1-249-415-11	CARBON	680	5%	1/4W
R706	1-249-431-11	CARBON	15K	5%	1/4W
R707	1-249-405-11	CARBON	100	5%	1/4W
R708	1-249-417-11	CARBON	1K	5%	1/4W
R709	1-249-423-11	CARBON	3.3K	5%	1/4W
R710	1-249-437-11	CARBON	47K	5%	1/4W
R711	1-249-435-11	CARBON	33K	5%	1/4W
R712	1-249-441-11	CARBON	100K	5%	1/4W
R713	1-249-424-11	CARBON	3.9K	5%	1/4W
R714	1-249-429-11	CARBON	10K	5%	1/4W
R715	1-249-420-11	CARBON	1.8K	5%	1/4W
R716	1-249-421-11	CARBON	2.2K	5%	1/4W
R717	1-249-427-11	CARBON	6.8K	5%	1/4W
R718	1-249-426-11	CARBON	5.6K	5%	1/4W
R719	1-249-426-11	CARBON	5.6K	5%	1/4W
R720	1-249-426-11	CARBON	5.6K	5%	1/4W
R721	1-249-426-11	CARBON	5.6K	5%	1/4W
		< SWITCH >			
S701	1-572-198-11	SWITCH, KEYBOARD (BAND FM/MW/LW)			
S703	1-572-198-11	SWITCH, KEYBOARD (MEMORY)			
S704	1-572-198-11	SWITCH, KEYBOARD (TUNING -)			
S705	1-572-198-11	SWITCH, KEYBOARD (TUNING +)			
S706	1-572-198-11	SWITCH, KEYBOARD (0)			
S707	1-572-198-11	SWITCH, KEYBOARD (1)			
S708	1-572-198-11	SWITCH, KEYBOARD (2)			
S709	1-572-198-11	SWITCH, KEYBOARD (3)			
S710	1-572-198-11	SWITCH, KEYBOARD (4)			
S711	1-572-198-11	SWITCH, KEYBOARD (5)			
S712	1-572-198-11	SWITCH, KEYBOARD (6)			
S713	1-572-198-11	SWITCH, KEYBOARD (7)			
S714	1-572-198-11	SWITCH, KEYBOARD (8)			
S715	1-572-198-11	SWITCH, KEYBOARD (9)			
S716	1-572-198-11	SWITCH, KEYBOARD (+10)			
		< VIBRATOR >			
X701	1-567-769-11	VIBRATOR, CRYSTAL (75kHz)			

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Ref. No.	Part No.	Description	Remark
*	1-641-658-11	LED BOARD *********	
*	1-691-559-11	HOUSING, CONNECTOR 2P	
		< DIODE >	
D33	8-719-980-67	LED MVR3338S (TUNING)	

****

Ref. No.	Part No.	Description	Remark
*	1-643-813-11	MIC BOARD *********	
		< MICROPHONE >	
ECM301	1-542-178-11	MICROPHONE, ELECTRET CONDENSER (MIC)	

****

Ref. No.	Part No.	Description	Remark
*	1-641-657-11	PAL BOARD (AEP) ***************	
*	1-562-680-11	CONNECTOR, SMALL MICRO 2P (AEP)	
*	1-562-683-11	CONTACT, SMALL MICRO (AEP)	
		< CONNECTOR >	
CN1	1-580-083-11	CONNECTOR (PAL) 1P (EXT ANT) (AEP)	

****

Ref. No.	Part No.	Description	Remark
*	1-645-035-11	POWER BOARD ***********	
⚠	1-533-217-31	HOLDER, FUSE	
*	1-691-559-21	HOUSING, CONNECTOR 2P	
		< CAPACITOR >	
C801	1-101-005-00	CERAMIC 22000PF	50V
C802	1-101-005-00	CERAMIC 22000PF	50V
C803	1-101-005-00	CERAMIC 22000PF	50V
C804	1-101-005-00	CERAMIC 22000PF	50V
		< JACK >	
⚠CNJ801	1-526-838-11	INLET, AC 2P (～ AC IN)	
		< DIODE >	
D801	8-719-200-02	DIODE 10E2	
D802	8-719-200-02	DIODE 10E2	
D803	8-719-200-02	DIODE 10E2	
D804	8-719-200-02	DIODE 10E2	
		< FUSE >	
⚠F801	1-532-285-00	FUSE, TIME-LAG (T1.25AL 250V)	

Ref. No.	Part No.	Description	Remark
		< CABLE HOLDER >	
* KH801	1-573-287-11	HOLDER, CABLE 2P	
		< TRANSFORMER >	
⚠T801	1-450-492-11	TRANSFORMER, POWER	

****

Ref. No.	Part No.	Description	Remark
*	A-3262-803-A	TUNER BOARD, COMPLETE (Germany, Italian) ********************	
*	A-3262-805-A	TUNER BOARD, COMPLETE (AEP) ********************	
*	3-352-386-01	PLATE (D), SHIELD	
*	3-382-312-01	PLATE (C), SHIELD	
		< CAPACITOR >	
C1	1-161-494-00	CERAMIC 0.022uF	25V
C2	1-162-849-11	CERAMIC 0.068uF 10%	16V
C3	1-124-443-00	ELECT 100uF 20%	10V
C4	1-161-379-00	CERAMIC 0.01uF 20%	25V
C5	1-162-187-31	CERAMIC 1PF 20%	50V
C6	1-162-187-31	CERAMIC 1PF 20%	50V
C7	1-124-925-11	ELECT 2.2uF 20%	100V
C8	1-124-443-00	ELECT 100uF 20%	10V
C9	1-162-197-31	CERAMIC 6.8PF 10%	50V
C10	1-161-379-00	CERAMIC 0.01uF 20%	25V
C11	1-162-286-31	CERAMIC 220PF 10%	50V
C13	1-124-927-11	ELECT 4.7uF 20%	100V
C14	1-124-903-11	ELECT 1uF 20%	50V
C15	1-124-126-00	ELECT 47uF 20%	10V
C16	1-124-126-00	ELECT 47uF 20%	10V
C17	1-161-379-00	CERAMIC 0.01uF 20%	25V
C18	1-124-902-00	ELECT 0.47uF 20%	50V
C19	1-124-902-00	ELECT 0.47uF 20%	50V
C20	1-124-903-11	ELECT 1uF 20%	50V
C21	1-124-902-00	ELECT 0.47uF 20%	50V
C22	1-124-927-11	ELECT 4.7uF 20%	100V
C23	1-162-290-31	CERAMIC 470PF 10%	50V
C24	1-161-379-00	CERAMIC 0.01uF 20%	25V
C27	1-162-294-31	CERAMIC 0.001uF 10%	50V
C28	1-162-840-11	CERAMIC 0.012uF 10%	16V
C29	1-162-840-11	CERAMIC 0.012uF 10%	16V
C31	1-162-282-31	CERAMIC 100PF 10%	50V
C33	1-162-294-31	CERAMIC 0.001uF 10%	50V
C35	1-161-379-00	CERAMIC 0.01uF 20%	25V
C39	1-162-282-31	CERAMIC 100PF 10%	50V
C40	1-124-903-11	ELECT 1uF 20%	50V
C41	1-162-282-31	CERAMIC 100PF 10%	50V
C42	1-162-282-31	CERAMIC 100PF 10%	50V

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

TUNER

Ref. No.	Part No.	Description			Remark
C43	1-161-494-00	CERAMIC	0.022uF		25V
C44	1-161-494-00	CERAMIC	0.022uF		25V
C45	1-124-902-00	ELECT	0.47uF	20%	50V
C46	1-162-195-31	CERAMIC	4.7PF	10%	50V
C47	1-126-176-11	ELECT	220uF	20%	10V
C48	1-162-197-31	CERAMIC	6.8PF	10%	50V
C49	1-102-962-00	CERAMIC	30PF	5%	50V
C51	1-101-890-00	CERAMIC	75PF	5%	50V
C52	1-102-823-00	CERAMIC	430PF	5%	50V
C55	1-161-494-00	CERAMIC	0.022uF		25V
C56	1-162-195-31	CERAMIC	4.7PF	10%	50V
C60	1-101-005-00	CERAMIC	22000PF		50V
C61	1-162-197-31	CERAMIC	6.8PF	10%	50V
C63	1-130-012-00	FILM	330PF	5%	50V
C66	1-162-843-11	CERAMIC	0.022uF	10%	16V
C74	1-101-005-00	CERAMIC	22000PF		50V
C75	1-161-379-00	CERAMIC	0.01uF	20%	25V
C82	1-124-907-11	ELECT	10uF	20%	50V
C83	1-102-525-11	CERAMIC	68PF	5%	50V
C84	1-161-041-00	CERAMIC	0.0015uF	10%	50V
C85	1-124-126-00	ELECT	47uF	20%	10V
C86	1-124-925-11	ELECT	2.2uF	20%	100V
C87	1-162-282-31	CERAMIC	100PF	10%	50V
C89	1-124-126-00	ELECT	47uF	20%	10V
C91	1-162-282-31	CERAMIC	100PF	10%	50V
					(Germany, Italian)
		< FILTER >			
CF1	1-577-599-11	FILTER, CERAMIC			
CF2	1-577-599-11	FILTER, CERAMIC			
CF3	1-239-173-11	ENCAPSULATED COMPONENT			
CF4	1-577-599-11	FILTER, CERAMIC			
		< CONNECTOR >			
CNP22	1-566-690-11	PLUG, CONNECTOR (2.5MM) 2P			
* CNP23	1-573-480-11	PIN, CONNECTOR (PC BOARD) 2P			
* CNP24	1-573-484-11	PIN, CONNECTOR (PC BOARD) 6P			
CNP25	1-566-690-11	PLUG, CONNECTOR (2.5MM) 2P			(AEP)
* CNP26	1-573-480-11	PIN, CONNECTOR (PC BOARD) 2P			
* CNP27	1-573-480-11	PIN, CONNECTOR (PC BOARD) 2P			
		< CONPOSITION CIRCUIT BLOCK >			
CP1	1-235-171-00	FILTER, BAND PASS			
		< TRIMMER >			
CT5	1-141-290-41	CAP, VAR FILM TRIMMER 10P			
CT6	1-141-362-41	CAP, VAR FILM TRIMMER 20P			
CT7	1-141-290-41	CAP, VAR FILM TRIMMER 10P			
CT8	1-141-438-21	CAP, ADJ 30P			

Ref. No.	Part No.	Description			Remark
		< DIODE >			
D1	8-719-911-19	DIODE	1SS119		
D2	8-719-911-19	DIODE	1SS119		
D5	8-719-980-65	DIODE	SVC203RA-V		
D6	8-719-980-65	DIODE	SVC203RA-V		
D28	8-719-980-71	DIODE	SVC342L-V		
D29	8-719-911-19	DIODE	1SS119		
D30	8-719-911-19	DIODE	1SS119		
D31	8-719-911-19	DIODE	1SS119		
D32	8-719-911-19	DIODE	1SS119		
D81	8-719-911-19	DIODE	1SS119		
		< IC >			
IC1	8-752-050-20	IC	CXA1238S		
IC81	8-759-230-45	IC	TA8148S		
		< COIL >			
L1	1-428-146-11	COIL, AIR-CORE (FM RF)			
L2	1-428-145-11	COIL, AIR-CORE (FM RF)			
L3	1-426-507-11	COIL (FM RF)			
L5	1-402-510-11	ANTENNA, FERRITE-ROD			
L31	1-410-509-11	INDUCTOR	10uH		(AEP)
L81	1-410-336-11	INDUCTOR	220uH		
L82	1-410-509-11	INDUCTOR	10uH		
L83	1-410-509-11	INDUCTOR	10uH		
		< TRANSISTOR >			
Q1	8-729-904-39	TRANSISTOR	DTC114TS		
Q2	8-729-904-39	TRANSISTOR	DTC114TS		
Q3	8-729-904-39	TRANSISTOR	DTC114TS		
Q4	8-729-904-39	TRANSISTOR	DTC114TS		
Q5	8-729-900-80	TRANSISTOR	DTC114ES		
Q6	8-729-900-80	TRANSISTOR	DTC114ES		
Q8	8-729-904-39	TRANSISTOR	DTC114TS		
Q9	8-729-178-73	TRANSISTOR	2SC2787-K		
Q16	8-729-119-32	TRANSISTOR	2SK193-E		
Q20	8-729-178-73	TRANSISTOR	2SC2787-K		
Q21	8-729-823-22	TRANSISTOR	2SC3576		
Q22	8-729-823-22	TRANSISTOR	2SC3576		
Q28	8-729-900-80	TRANSISTOR	DTC114ES		
Q29	8-729-900-80	TRANSISTOR	DTC114ES		
		< RESISTOR >			
R1	1-249-441-11	CARBON	100K	5%	1/4W
R3	1-249-437-11	CARBON	47K	5%	1/4W
R5	1-249-417-11	CARBON	1K	5%	1/4W
R7	1-249-421-11	CARBON	2.2K	5%	1/4W
R8	1-249-411-11	CARBON	330	5%	1/4W

Ref. No.	Part No.	Description	Remark
R9	1-249-405-11	CARBON 100 5% 1/4W	
R10	1-249-429-11	CARBON 10K 5% 1/4W	
R12	1-249-427-11	CARBON 6.8K 5% 1/4W	
R13	1-249-427-11	CARBON 6.8K 5% 1/4W	
R15	1-249-421-11	CARBON 2.2K 5% 1/4W	
R16	1-247-887-00	CARBON 220K 5% 1/4W	
R17	1-247-887-00	CARBON 220K 5% 1/4W	
R18	1-249-405-11	CARBON 100 5% 1/4W	
R20	1-249-429-11	CARBON 10K 5% 1/4W	
R21	1-249-429-11	CARBON 10K 5% 1/4W	
R22	1-249-424-11	CARBON 3.9K 5% 1/4W	
R23	1-249-424-11	CARBON 3.9K 5% 1/4W	
R24	1-249-429-11	CARBON 10K 5% 1/4W	
R26	1-249-422-11	CARBON 2.7K 5% 1/4W	
R28	1-249-405-11	CARBON 100 5% 1/4W	
R29	1-249-437-11	CARBON 47K 5% 1/4W	
R30	1-249-417-11	CARBON 1K 5% 1/4W	
R34	1-249-407-11	CARBON 150 5% 1/4W	
R38	1-249-437-11	CARBON 47K 5% 1/4W	
R45	1-249-417-11	CARBON 1K 5% 1/4W	
R46	1-247-887-00	CARBON 220K 5% 1/4W	
R49	1-249-405-11	CARBON 100 5% 1/4W	
R51	1-249-417-11	CARBON 1K 5% 1/4W	
R55	1-249-417-11	CARBON 1K 5% 1/4W	
R60	1-249-417-11	CARBON 1K 5% 1/4W	
R62	1-247-887-00	CARBON 220K 5% 1/4W	
R65	1-249-441-11	CARBON 100K 5% 1/4W	
R66	1-249-441-11	CARBON 100K 5% 1/4W	
R80	1-249-429-11	CARBON 10K 5% 1/4W	
R81	1-249-405-11	CARBON 100 5% 1/4W	
R82	1-249-422-11	CARBON 2.7K 5% 1/4W	
R91	1-249-441-11	CARBON 100K 5% 1/4W	
R92	1-249-441-11	CARBON 100K 5% 1/4W	
		< VARIABLE RESISTOR >	
RV1	1-238-601-11	RES, ADJ, CARBON 22K	
		< SWITCH >	
S1	1-571-547-11	SWITCH, SLIDE (SENS)	
		< TRANSFORMER >	
T2	1-406-216-11	COIL (OSC)	
T4	1-239-173-11	ENCAPSULATED COMPONENT	
T81	1-449-385-11	TRANSFORMER, DC-DC CONVERTER	

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Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
ANT1	1-501-378-11	ANTENNA, TELESCOPIC	
* CNJ1	1-691-562-11	HOUSING, CONNECTOR 5P	
* CNJ2	1-691-561-11	HOUSING, CONNECTOR 4P	
* CNJ3	1-691-559-11	HOUSING, CONNECTOR 2P	
* CNJ5	1-691-559-11	HOUSING, CONNECTOR 2P	
* CNJ6	1-691-561-11	HOUSING, CONNECTOR 4P	
HE901	1-543-525-11	HEAD, MAGNETIC (ERASE)	
HP901	1-543-628-11	HEAD, MAGNETIC (PB)	
HRP901	1-543-628-11	HEAD, MAGNETIC (REC/PB)	
M901	X-4920-924-1	MOTOR ASSY (REEL/CAPSTAN)	
SP901	1-544-742-11	SPEAKER (10CM)	
SP902	1-544-742-11	SPEAKER (10CM)	

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ACCESSORIES & PACKING MATERIALS

⚠	1-574-131-21	CORD, POWER SUPPLY
*	3-379-366-01	CUSHION
*	3-379-367-01	CUSHION (R) (Germany, Italian)
*	3-381-186-01	INDIVIDUAL CARTON
	3-755-559-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, SPANISH)
	3-755-559-41	MANUAL, INSTRUCTION (DUTCH, SWEDISH, PORTUGUESE, ITALIAN) (AEP, Italian)

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HARDWARE LIST

#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S
#2	7-685-651-79	SCREW +BVTP 3X20 TYPE2
#3	7-682-548-09	SCREW +B 3X8
#4	7-685-133-19	SCREW +P 2.6X6 TYPE2
#5	7-682-548-04	SCREW +BVTT 3X8 (S)
#6	7-685-132-19	SCREW +P 2.6X5 TYPE2 NON-SLIT
#7	7-685-144-19	SCREW +P 3X5 TYPE2 NON-SLIT
#8	7-682-549-04	SCREW +BVTT 3X10 (S)
#9	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3 (AEP)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

9-957-458-11

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